Electronic Connector Catalog

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Litton
Winchester Electronics

Complete Connector Lines Backed By Quality Products And Service

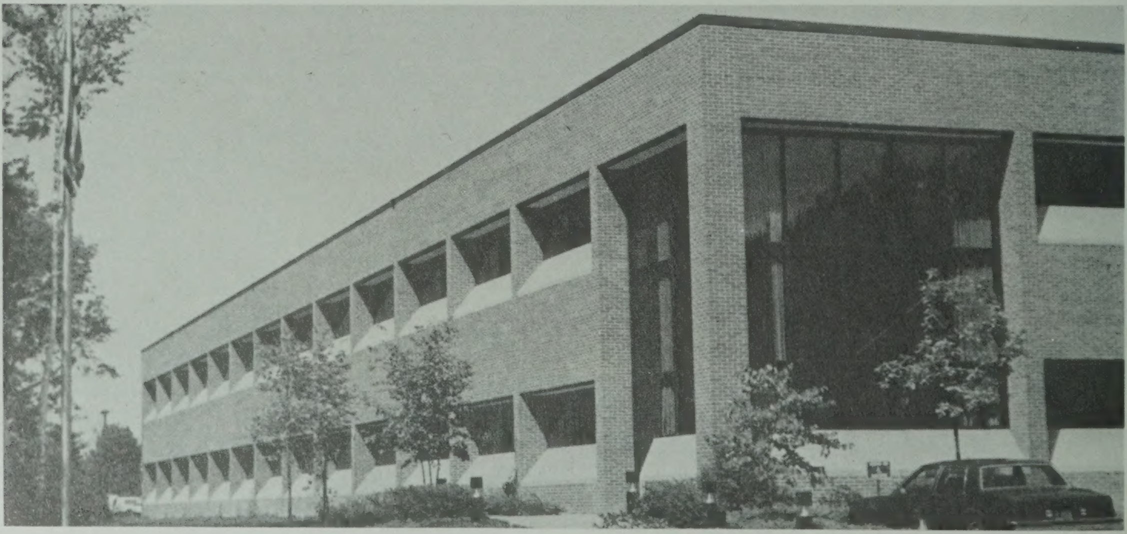
Here's the new Winchester Electronics Connector Catalog. It has been completely re-designed to function as a tool to facilitate on-the-job decisions for engineers and purchasing agents, distributors and dealers.

Making our customers' jobs easier has always been a hallmark of Winchester Electronics. Decades of innovative leadership has earned us a reputation as one of your most responsive sources for products and services in electronic packaging.

This catalog provides ready information on the entire Winchester Electronics connector line. Each connector contains basic descriptions, important features, applications, and ordering information. These Winchester Electronics connector products are the outgrowth of the company's technical experience in an ever evolving technology.

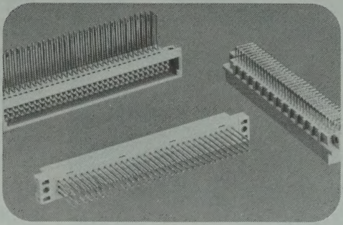
Engineering drawings on moldings and contacts, specifics on hardware and other accessories are available on request. Right now the finest connectors are ready, and in most cases available, for off-the-shelf delivery from our worldwide network of distributors. Call or write for additional details, specifications and recommendations from our technical sales/service department.

Litton
Winchester Electronics
400 Park Road, Watertown, CT 06795
(203) 755-5000 or (203) 274-8891



DIN HIGH DENSITY

DIN Connectors serve unlimited applications and are used in every market from military to commercial.



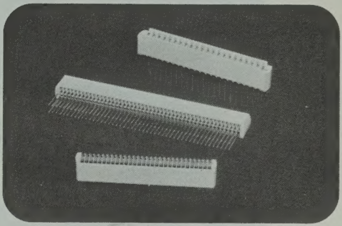
PAGES DN / 1 TO DN / 55

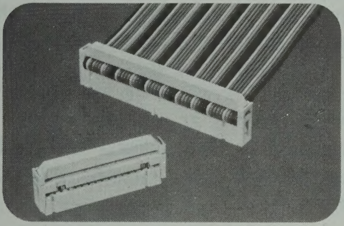
Winchester Electronics has one of the broadest selections of DIN Connectors in the industry.

C-PRESS®

PAGES CP / 1 to CP / 49

The advantage of the C-Press contact lies in its unique, "C"-shaped, compliant section. Unlike two and four-point press-in systems, the crescent-shaped, non-uniform beam naturally conforms, within the board, to the shape of the plated through-hole.





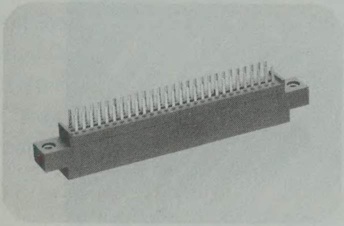
FLEX-COM®

PAGES FC / 1 to FC / 62

The expanded IDC System from Winchester Electronics represents one of the most reliable product lines on the market today.
This family of highly dependable, precision engineered connectors, cables, and tooling, encompasses hundreds of variations needed in cost-effective design and production.

PRINTED CIRCUIT EDGECARD

All connectors have been grouped into two major categories: edgecard and output.



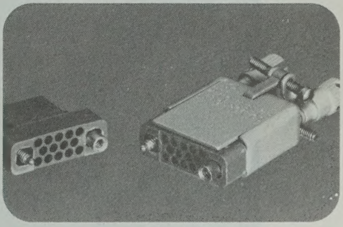
PAGES PC / 1 to PC / 25

Within these categories all edgecard connectors are referenced by their grid and contact centers.

RACK & PANEL

PAGES RP / 1 TO RP / 81

Rectangular, miniature and subminiature connectors, and removable contacts, tools and accessories included in this catalog constitute the accepted "standard" lines of Rack and Panel connectors for which Winchester Electronics has been well-known since its inception in 1941.



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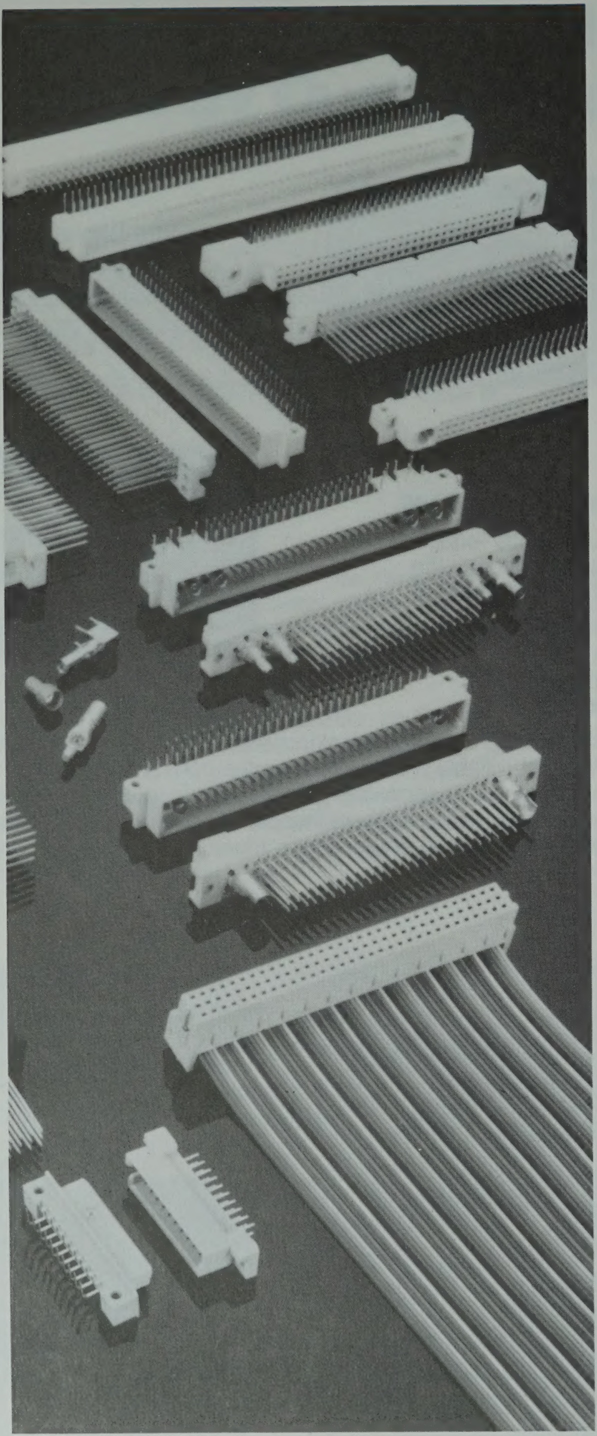
DIN High Density Connectors



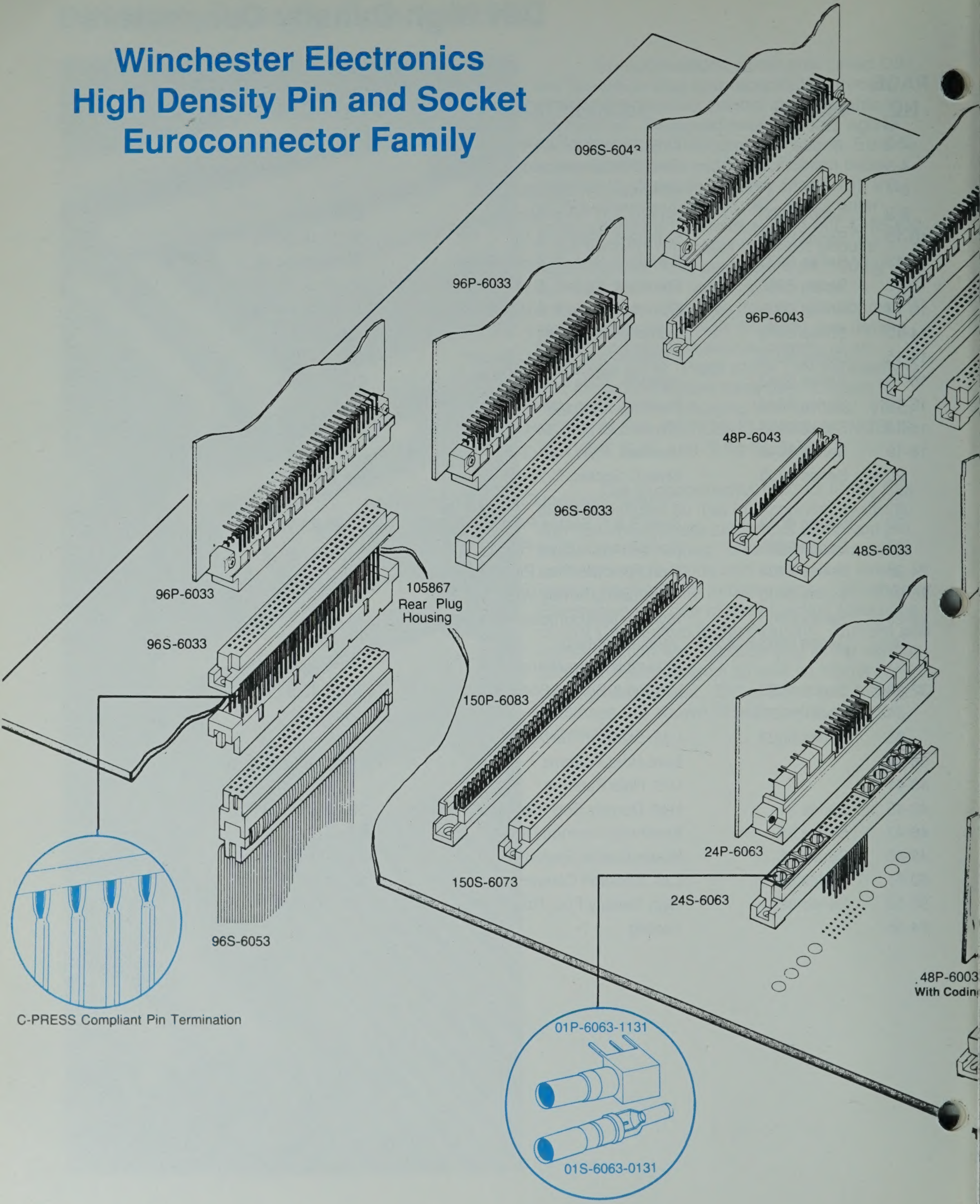
Euroconnectors, commonly called DIN, are two-piece plug and receptacles primarily used to interconnect printed circuit boards to backplanes. Designed over 20 years ago to serve European Telecommunications, Euroconnectors have a wide specification base. DIN 41612 (German Industry Standard), VG 95324 (German Military), IEC 603/2 (International Electro Committee), and MIL-C-55302 (USA Military) represent the most popular specifications. DIN connectors on .100 by .100 inch grid were the very first two-piece connectors to offer high density interconnect with size flexibility, high reliability, low mating forces, and multiple source supply, at an affordable price. Proof of the DIN popularity is that these connectors have been chosen to interconnect the following Bus formats: VME, MULTI BUS II, EUROBUS, CIMBUS, NUBUS, FUTURE BUS, and G-64/96 BUS.

The Euroconnector product family has been expanded so that interconnect systems can now incorporate solderless compliant pin assembly techniques. DIN Connectors serve unlimited applications and are used in every market from military to commercial. Winchester Electronics has one of the broadest selections of DIN Connectors in the industry. This pin and socket section will introduce you to the various DIN Connector options as well as higher density alternatives. Dimensions and plating thickness are shown in both metric and inch dimensions.

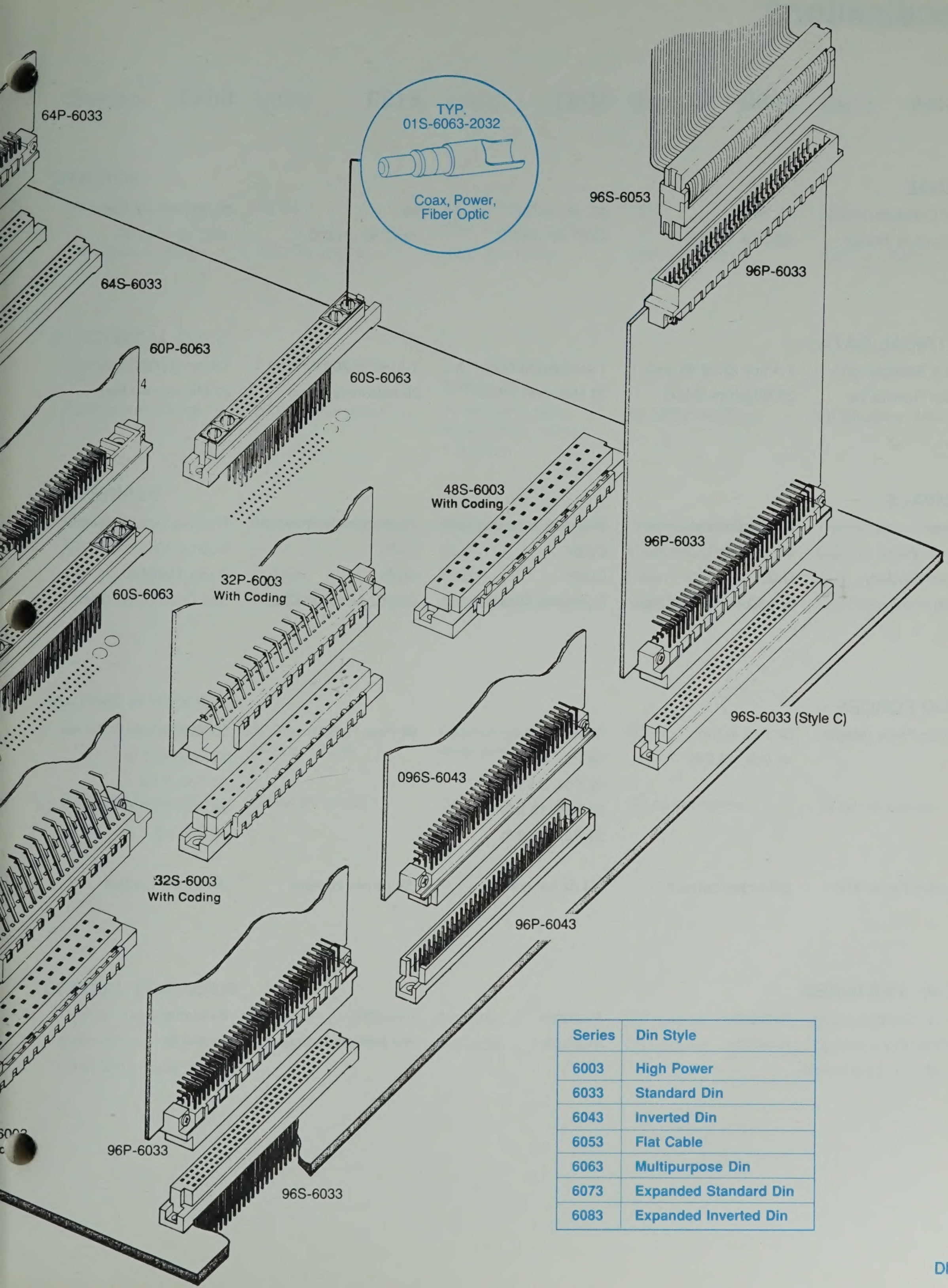
DIN High Density Connectors

PAGE NO.	SERIES	DESCRIPTION	CONTACTS
2-3		Euroconnector Family Layout	
4-5		Euro DIN Specifications	
6-7		American DIN Specifications	
8-9	Series 6003	Style D & E Pin & Socket	32,48
10-13	Series 6033	Standard, Style C & Half C Pin	30,32,48,64,96
10-13	Series 6033	Standard, Style B & Half B Pin	30,32,48,64,96
10-13	Series 6033	Standard, Style C & Half C Socket	30,32,48,64,96
10-13	Series 6033	Standard, Style B & Half B Socket	30,32,48,64,96
14-15	Series 6073	Complies with Style C Pin	150
14-15	Series 6073	Complies with Style C Socket	150
16-19	Series 6043	Inverted, Style R & Half R Pin	20,32,48,96
16-19	Series 6043	Inverted, Style Half Q & Q3 Pin	20,32,48,96
16-19	Series 6043	Inverted, Style R & Half R Socket	20,32,48,96,096
16-19	Series 6043	Inverted, Style Half Q and Q3 Socket	20,32,48,96,096
20	Series 6133	Style C Socket, C-Press Contacts	96
21		C-Press Compliant Contact Technical Data	
22	Series 6053	Style B & C Socket Flat Cable (IDC)	32,48,64,96
23	Series 6083	Complies with Style R Inv. Pin	150
24-25	Series 6101	Four Row 128 Pos. Pin & Socket	128
26-27	Series 6035	Four Mating Levels W/DIN 41494	09
28-29	Series 6063	Style M, Multipurpose Pin & Socket	24,42,60,78
30	Series 6063/6093	Special Contacts	
31		Assembly Instructions	
32-33	Series 6093	Inv. Pin & Socket Complies w/Style M	06,24,42,60,78
34	Coding 6093		
35	Series 6023	L.M. Ericsson Version	096
36-39		Euro Hole Patterns	
40-41		U.S. Hole Patterns	
42-45	Series 91	High Density End Stackable Modular	50, 68 per row
46-47	Series 94	Expanded Inverted DIN	32,40,50 per row
48-49	Series 95	Intermateable System 12	32 per row
50-51	Series 97	L.M. Ericsson Compatible	32,50 per row
52-53	Series 98	High Density Four Row	40,50,60,75 per row
54-55		Tooling	

Winchester Electronics High Density Pin and Socket Euroconnector Family



C-PRESS Compliant Pin Termination



Series	Din Style
6003	High Power
6033	Standard Din
6043	Inverted Din
6053	Flat Cable
6063	Multipurpose Din
6073	Expanded Standard Din
6083	Expanded Inverted Din

Specifications

Series	6003	6033	6133	6043
GENERAL				
No. of Contacts (max.)	32, 48	32, 48, 64, 96	96	20, 32, 48, 96, 096
Temperature Range	-65C° to +125°C	-60C° to +140°C	-60C° to +140°C	-65C° to +140°C
ELECTRICAL DATA				
Current Rating	4 Amps @ 70°C	1 Amp @ 70°C	1 Amp @ 70°C	1 Amp @ 70°C
Contact Resistance	20 Milliohms (Max)	20 Milliohms (Max)	20 Milliohms (Max)	20 Milliohms (Max)
MATERIALS				
Insulator	Polycarbonate	Thermoplastic Polyester	Thermoplastic Polyester	Thermoplastic Polyester
Contact (Pin)	CuZn	CuZn	CuZn	CuZn or CuSn
Contact (Socket)	CuZn	CuZn	CuZn	CuSn, CuNiSn
Plating	See Code Order Chart	See Code Order Chart	See Code Order Chart	See Code Order Chart
MATING FORCES				
Insertion Force (Max)	32 Pos. 8.8 lb 48 Pos. 13.2 lb	30 Pos. 6.2 lb 32 Pos. 6.6 lb 48 Pos. 9.9lb 64 Pos. 13.2 lb 96 Pos. 19.8 lb	96 Pos. 19.8 lb	20 Pos. 4.1 lb 32 Pos. 16.1 lb 48 Pos. 9.9lb 64 Pos. 32.2 lb 96 Pos. 19.8 lb
Retention Force (Min.)	.54 oz per contact	.54 oz per contact	.54 oz per contact	.54 oz per contact
SPECIAL FEATURES				
Coding - Device	Available	Available	Available	Available
Extended Pin (First Make) (Last Break)	Available	Available	Not Available	Available

Specifications

Series	6053	6063	6073	6083
GENERAL				
No. of Contacts (max.)	32, 64	24, 42, 60, 78 Max. 8 special contacts	150	150
Temperature Range	-65C° to +140°C	-65C° to +140°C	-65C° to +140°C	-65C° to +140°C
ELECTRICAL DATA				
Current Rating	1 Amp @ 70°C	1 A, High Current Contact 30 A	1 Amp @ 70°C	1 Amp @ 70°C
Contact Resistance	20 Milliohms (Max)	20 Milliohms (Max) High Current Contact 1 Milliohm	20 Milliohms (Max)	20 Milliohms (Max)
MATERIALS				
Insulator	Thermoplastic Polyester	Thermoplastic Polyester	Thermoplastic Polyester	Thermoplastic Polyester
Contact (Pin)	—	CuZn	CuZn or CuSn	CuZn or CuSn
Contact (Socket)	CuNiSn	CuZn	CuSn	—
Plating	See Code Order Chart	See Code Order Chart	See Code Order Chart	See Code Order Chart
MATING FORCES				
Insertion Force (Max)	32 Pos. 6.6 lb 64 Pos. 13.2 lb	Depending on Contact Arrangement	30.9 lb	30.9 lb
Retention Force (Min.)	.54 oz per contact	.54 oz/Signal contact	.54 oz per contact	.54 oz per contact
SPECIAL FEATURES				
Coding - Device	Available	Available	Not Available	NotAvailable
Extended Pin (First Make) (Last Break)	Not Available	Available	On Request	On Request

Specifications

Series	6093	6023	6101	91
GENERAL				
No. of Contacts (max.)	24, 42, 60, 78 Max 8 Special Contacts	096	128	50 per row
Temperature Range	-65C° to +140°C	-65C° to +140°C	-65C° to +140°C	-55C° to +105°C
ELECTRICAL DATA				
Current Rating	1 A, High Current Contact 30A	1 Amp @ 70°C	1 Amp @ 70°C	1 Amp @ 70°C
Contact Resistance	20 Milliohms (Max) High Current Contact 1 Milliohm	20 Milliohms (Max)	20 Milliohms (Max)	20 Milliohms (Max)
MATERIALS				
Insulator	Thermoplastic Polyester	Thermoplastic Polyester	Thermoplastic Polyester	Thermoplastic Polyester
Contact (Pin)	—	—	CuNiSn	Copper Alloy 725
Contact (Socket)	CuSn	CuSn	CuNiSn	Phosphor Bronze
Plating	See Code Order Chart	See Code Order Chart	See Code Order Chart	See Code Order Chart
MATING FORCES				
Insertion Force (Max)	Depending on Contact Arrangement	96 Pos. 19.8 lb	26.4 lb	20 lbs Max.Connector @ 150 Pos.
Retention Force (Min.)	.54 oz/Signal contact	.54 oz per contact	.54 oz per contact	4.5 lbs Min./Connector @ 150 Pos.
SPECIAL FEATURES				
Coding - Device	Not Available	Not Available	Available	Available
Extended Pin (First Make) (Last Break)	Not Available	Not Available	Available	On Request†

Specifications

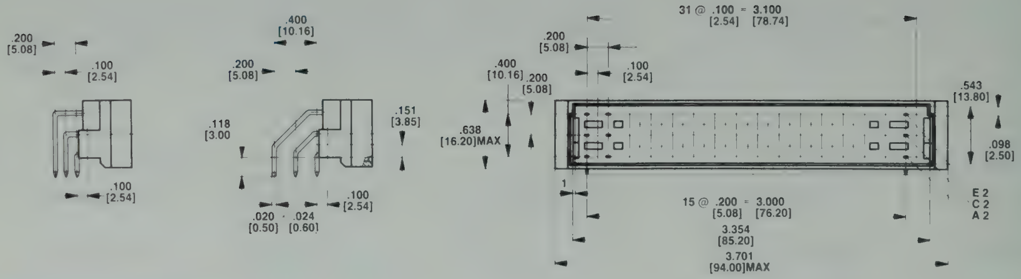
Series	94	95	97	98
GENERAL				
No. of Contacts (max.)	32,40,50 per row	32 per row	32, 50 per row	40, 50, 60, 75 per row
Temperature Range	-55C˚ to +105˚C	-55C˚ to +105˚C	-55C˚ to +105˚C	-55C˚ to +105˚C
ELECTRICAL DATA				
Current Rating	1 Amp @ 70˚C	1 Amp @ 70˚C	1 Amp @ 70˚C	1 Amp @ 70˚C
Contact Resistance	20 Milliohms (Max)	20 Milliohms (Max)	20 Milliohms (Max)	20 Milliohms (Max)
MATERIALS				
Insulator	Thermoplastic Polyester	Thermoplastic Polyester	Thermoplastic Polyester	Thermoplastic Polyester
Contact (Pin)	Copper Alloy 725	Copper Alloy 725	Copper Alloy 725	Copper Alloy 725
Contact (Socket)	Phosphor Bronze	—	—	—
Plating	See Code Order Chart	See Code Order Chart	See Code Order Chart	See Code Order Chart
MATING FORCES				
Insertion Force (Max)	96 Pos. 12 lbs 120 Pos. 15 lbs 150 Pos. 18.7 lbs			
Retention Force (Min.)	.5 oz. min. per contact			
SPECIAL FEATURES				
Coding - Device	Available	Available	Not Available	Standard
Extended Pin (First Make) (Last Break)	Available	On Request	On Request	On Request

6003 Series

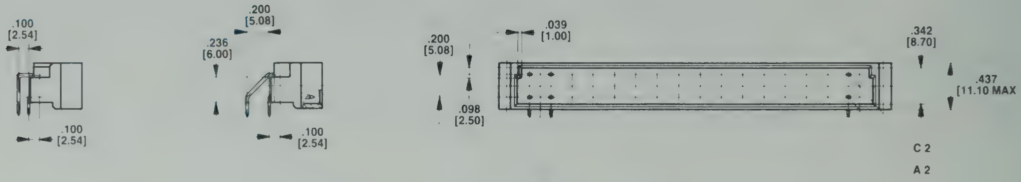
Style D and E Pin

Dimensions

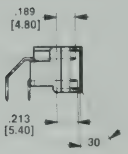
Pin Connector 48 contacts style E

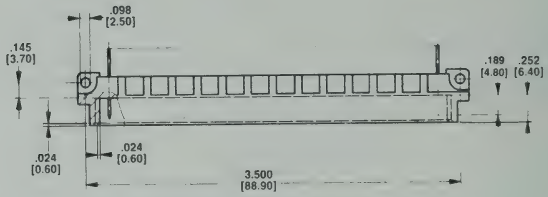


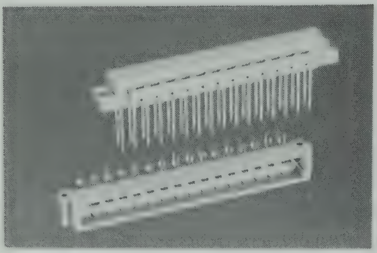
Pin Connector 32 contacts style D



Extended pin







CATALOG NUMBER	CODE	STYLE PER DIN 41612
	32P-6003	D, 2 Row Pin Connector
	48P-6003	E, 3 Row Pin Connector

CONTACT CONFIGURATION	CODE	CONTACT SEQUENCE	ROW
	11	ALL EVEN POSITIONS	A
	15	" "	A & C
	19	" "	A, C & E
	18	" "	A & E

SURFACE TREATMENT	CODE	CONTACT AREA	TERMINAL
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
		Consult Factory For Other Platings	

TERMINATION	CODE	DIP SOLDER
	0	.118 [3.0 mm] for Row Spacing .200 [5.08 mm]
	1	.118 [3.0 mm] for Row Spacing .100 [2.54 mm]

SPECIAL FEATURES	CODE	OPTIONS
	C	With Coding Device
	E1	Extended Pin in Outer Positions of Row A Extended .024 [0.6 mm]
	Blank	No Special Options

6003	□	△	◺	◐

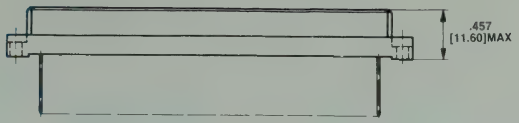
EXAMPLE: **32P-6003-1522-0**

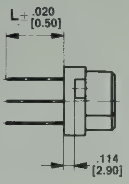
Style D and E Socket

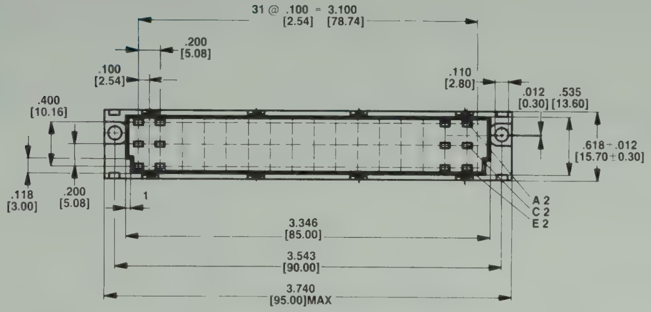
Series 6003

Dimensions

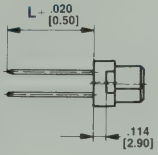
Socket Connector 48 contacts style E

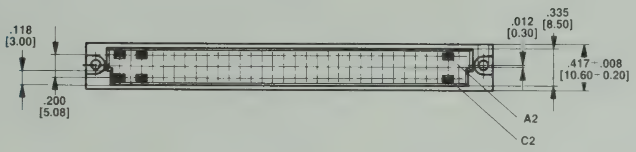






Socket Connector 32 contacts style D





CATALOG NUMBER

CODE	STYLE PER DIN 41612
32S-6003	D, 2 Row Socket Connector
48S-6003	E, 3 Row Socket Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
11	ALL EVEN POSITIONS	A
15	" "	A & C
19	" "	A, C & E
18	" "	A & E

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

CODE	WIRE WRAP		CODE	DIP SOLDER	
6	.024 x .024	L = .512 [13 mm]	2	.039 x .039	L = .157 [4.0 mm]
7	.039 x .039	L = .787 [20 mm]	3	.024 x .024	L = .157 [4.0 mm]
8	.039 x .039	L = .512 [13 mm]	5	.024 x .024	L = .098 [2.5 mm]

SPECIAL FEATURES

CODE	OPTIONS
C	With Coding Device
Blank	No Special Options

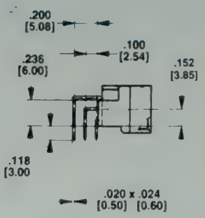
6003 □ △ ◺ ◑ *EXAMPLE:* **32S-6003-1522-3**

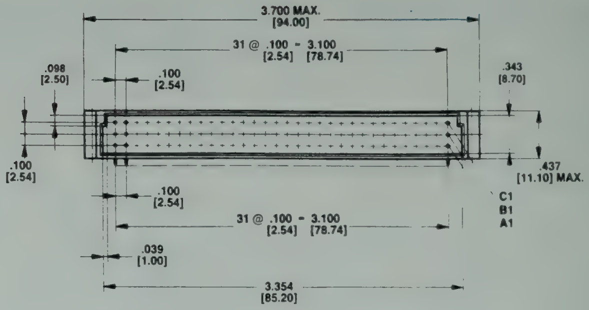
SERIES 6003

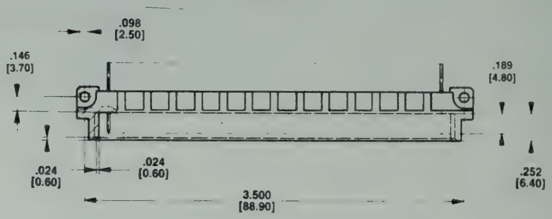
Range of Applications - Rigid Systems, Power Supplies and Industrial Electronics Applications.

The connectors of this series have been designed with .200" (5.08 mm) spacing between adjacent contacts. This spacing in conjunction with heavy tail cross-sections allows the connectors to be used at higher operating voltages. Current rating is 4 Amps at 70°C.

Dimensions

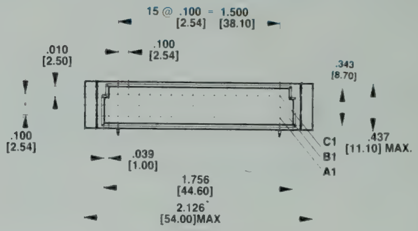




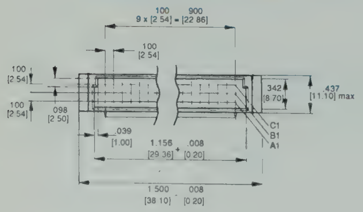


Style C
3 Rows of 32 Positions

Style Half C
3 Rows of 16 Positions



Style Third C
3 Rows of 10 Positions



SERIES 6033

Range of Applications - High Density Telecommunications Data Systems

Commonly referred to as "Standard DIN", this plug and receptacle is a very popular motherboard to daughterboard interconnect. The right angle plug connector is used on the daughterboard and the receptacle is mounted to the motherboard or backpanel. Popularity is reinforced by its characteristics of high density (30 per inch in a 3 row configuration), cost effectiveness (compatible with edgecard), high reliability (serving telecommunications for over 15 years) and standardization (all products conforming to DIN 41612 are intermateable and interchangeable).

CATALOG NUMBER

CODE	STYLE PER DIN 41612
30P-6033	C/3, 3 Row Pin Connector
32P-6033	HALF B, 2 Row Pin Connector
48P-6033	HALF C, 3 Row Pin Connector
64P-6033	B, 2 Row Pin Connector
96P-6033	C, 3 Row Pin Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
01	ALL POSITIONS	A
04	" "	A & B
05	" "	A & C
07	" "	A, B & C
14	EVEN POSITIONS	A & B
15	" "	A & C
17	" "	A, B & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

CODE	DIP SOLDER	CODE	MINI WIRE-WRAP
0	L = .118 [3 mm]	6*	L = .512 [13 mm]
3***	L = .157 [4 mm]	7*	L = .669 [17 mm]
		8*	L = .315 [8 mm]

SPECIAL FEATURES**

CODE	OPTIONS
C****	With Coding Device
E1	Outer Pins of Row A Extended
E3	Outer Pins of Row C Extended
E13	Outer Pins of Row A & C Extended
Blank	No Special Options

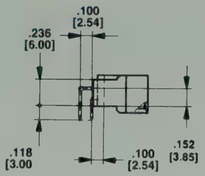
6033 ☐ △ ◺ ◑

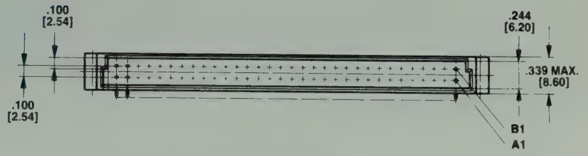
* *96P-6033 Only*
** *Coding on -0 Term. Only*
*** *Straight Tail*
**** *Available on 48, 64 & 96P*

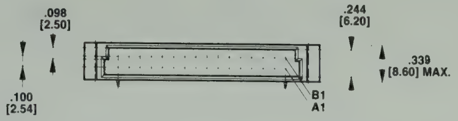
EXAMPLE: ***96P-6033-0731-0***

Dimensions

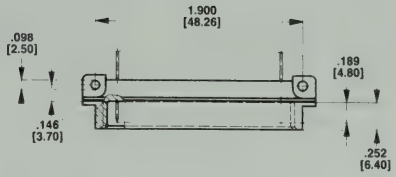
Style B
2 Rows of 32 Positions





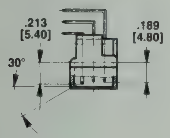


Style Half B
2 Rows of 16 Positions

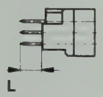


Termination Footnotes

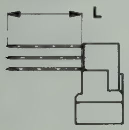
Extended pin (first make, last break)
On -O terminations only.



Special DIP solder
straight tail (-3)



Wire Wrap



Pin connector with termination codes 6, 7, 8, style C only

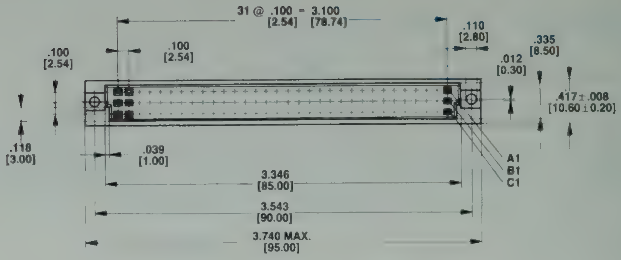
A wide termination selection of solder, wire wrap and compliant pin are available. Contact loading variations can be achieved without making this connector a special product.

6033 Series

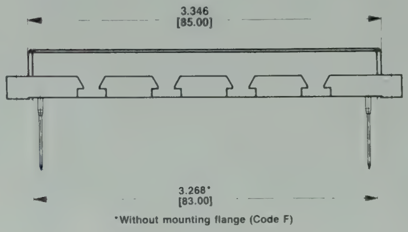
Standard, Style C & Half C Socket

Dimensions

Style C
3 Rows of 32 Positions

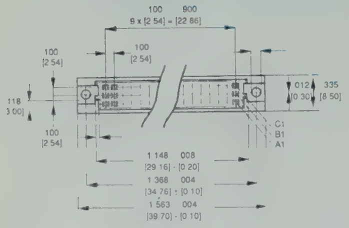


C-Press

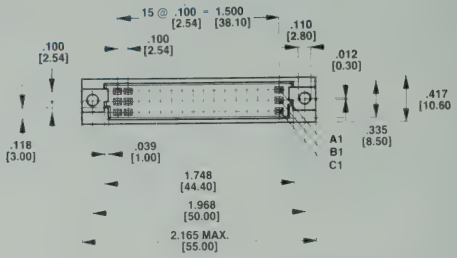


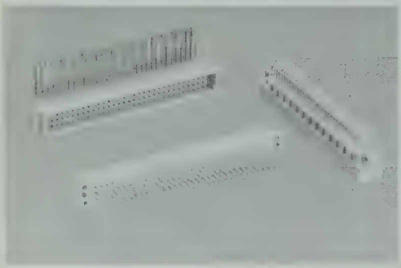
*Without mounting flange (Code F)

Style Third C
3 Rows of 10 Positions



Style Half C
3 Rows of 16 Positions





CATALOG NUMBER

CODE	STYLE PER DIN 41612
30S-6033	C/3, 3 Row Socket Connector
32S-6033	HALF B, 2 Row Socket Connector
48S-6033	HALF C, 3 Row Socket Connector
64S-6033	B, 2 Row Socket Connector
96S-6033	C, 3 Row Socket Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
01	ALL POSITIONS	A
04	" "	A & B
05	" "	A & C
07	" "	A, B & C
14	EVEN POSITIONS	A & B
15	" "	A & C
17	" "	A, B & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

CODE	DIP SOLDER	CODE	C-PRESS
2	L = .157 [4 mm]	6	L = .638 [16.2 mm]
4	Solder Eyelet	7	L = .524 [13.3 mm]
V	L = .098 [2.5 mm]	8	L = .303 [7.7 mm]
	MINI WIRE-WRAP	9	L = .079 [2 mm]
5	L = .287 [7.3 mm]	10	L = .366 [9.3 mm]
1	L = .512 [13 mm]		
0	L = .669 [17 mm]		
b	L = .366 [9.3 mm]		
d	L = .858 [21.8 mm]		

SPECIAL FEATURES

CODE	OPTIONS
C	With Coding Device
F	Without Mounting Flange for Termination 6, 7, 8, 9, & b
Blank	No Special Options

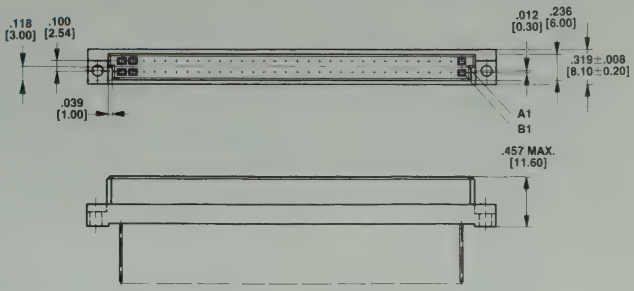
6033	□	△	◺	◑

EXAMPLE: **96S-6033-0731-2**

NOTE. 30S 6033 AND 32S 6033 NOT AVAILABLE WITH CODING DEVICE

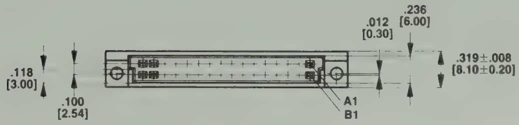
Dimensions

Style B
2 Rows of 32 Positions



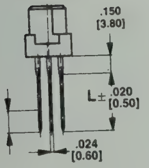
Style Half B

2 Rows of 16 Positions

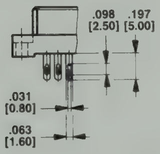


Termination Footnotes

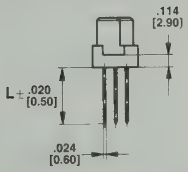
C-Press



Solder Eyelet



Dip Solder
Mini Wire Wrap



SERIES 6033

6033 Half DIN

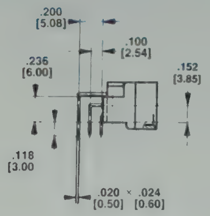
These connectors maintain the integrity of "Standard DIN." This half length version, complying with style B and C (According to DIN 41612), offers the same variety of termination techniques as the full length 6033 connectors.

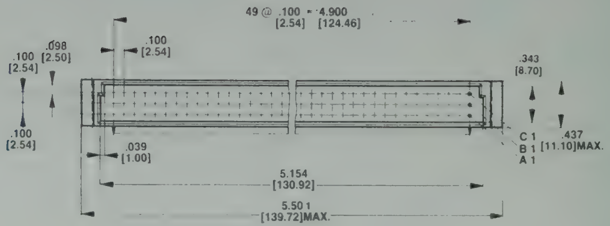
6073 Series

Complies with Style C Pin

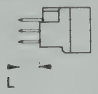
Dimensions

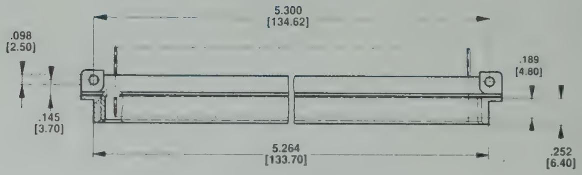
Pin Connector 150 contacts complies with style C

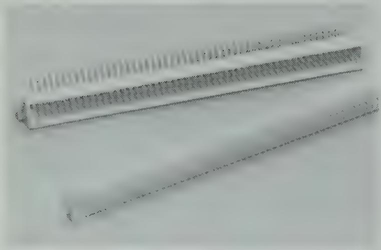




Special DIP solder straight tail (-3)







CATALOG NUMBER	CODE	STYLE PER DIN 41612
	150P-6073	C, Pin Connector

CONTACT CONFIGURATION	CODE	CONTACT SEQUENCE		ROW
	01	ALL POSITIONS		A
	04	"	"	A & B
	05	"	"	A & C
	07	"	"	A, B & C
	14	EVEN POSITIONS		A & B
	15	"	"	A & C
	17	"	"	A, B & C

SURFACE TREATMENT	CODE	CONTACT AREA	TERMINAL
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
		Consult Factory For Other Platings	

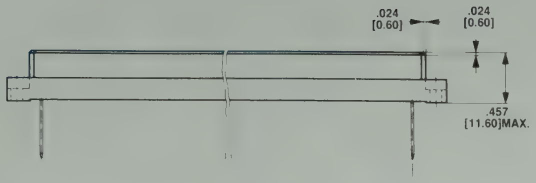
TERMINATION	CODE	DIP SOLDER
	0	L = .118 [3 mm]
	3	L = .157 [4 mm] Straight Tail

6073 ☐ △ ◺

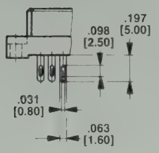
EXAMPLE: **150P-6073-0731-0**

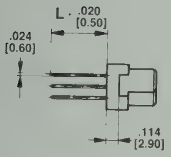
Dimensions

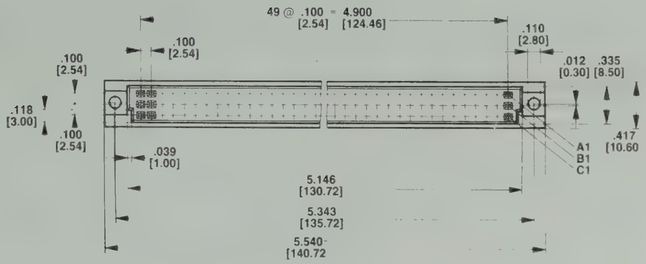
Socket Connector 150 contacts complies with style C



Solder eyelet







CATALOG NUMBER	CODE	STYLE PER DIN 41612
	150S-6073	C Socket Connector

CONTACT CONFIGURATION	CODE	CONTACT SEQUENCE	ROW
	01	ALL POSITIONS	A
	04	" "	A & B
	05	" "	A & C
	07	" "	A, B & C
	14	EVEN POSITIONS	A & B
	15	" "	A & C
	17	" "	A, B & C

SURFACE TREATMENT	CODE	CONTACT AREA	TERMINAL
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns) Consult Factory For Other Platings	Tinned

TERMINATION	CODE	DIP SOLDER	CODE	MINI WIRE-WRAP
	V	.024 x .012 L = .098 [2.5 mm]	5	L = .287 [7.3 mm]
	2	.024 x .012 L = .157 [4 mm]	1	L = .512 [13 mm]
			0	L = .669 [17 mm]
	4	Solder eyelet		

6073	□	△	◺

EXAMPLE: **150S-6073-0731-0**

SERIES 6073

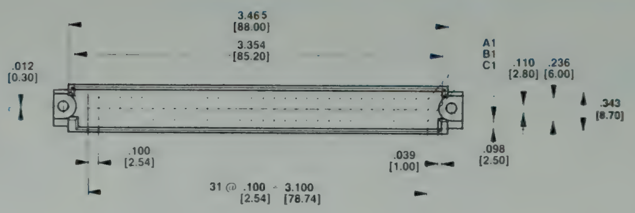
Range of Applications -
For Higher Packaging Density
Dimensions & Design
Fully Integrated in DIN 41612

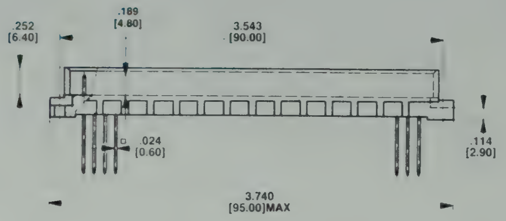
While European Telecommunications were recognizing half sizes, the American marketplace was asking for higher densities. Three rows of 50 positions were tooled to meet this demand while maintaining the integrity of DIN. This connector system is called "Expanded DIN."

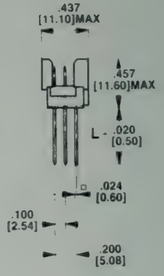
6043 Series

Inverted, Style R and Half R Pin

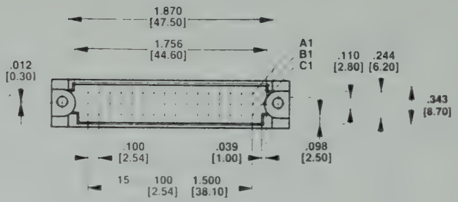
Style R
3 Rows of 32 Positions

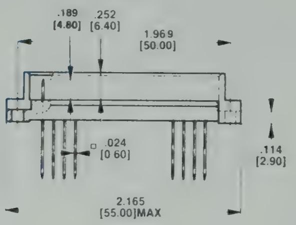




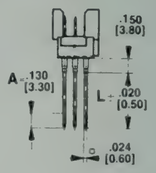


Style Half R
3 Rows of 16 Positions





C-Press



SERIES 6043

High Density, Metal-to-Metal, Two-Piece Connectors - Separate Coding Device for Polarization up to 924 Variations

This Series is called Inverted DIN, Reverse DIN or even NID. Utilizing the same contact system of "Standard DIN", the gender of the contacts has been changed for better application costs and easier repairability. Now the receptacle is the right angle daughterboard connector and the plug or header is used on the motherboard. These advantages over "Standard DIN" make Inverted DIN the most popular DIN style connector in America. All the contact loading variations and terminations of "Standard DIN" have been integrated into these connectors.

CATALOG NUMBER

CODE	STYLE PER DIN 41612
20P-6043	Q3, 2 Row Plug Connector
32P-6043	HALF Q, 2 Row Plug Connector
48P-6043	HALF R, 3 Row Plug Connector
96P-6043	R, 3 Row Plug Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
01	ALL POSITIONS	A
04	" "	A & B
05	" "	A & C
07	" "	A, B & C
14	EVEN POSITIONS	A & B
15	" "	A & C
17	" "	A, B & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

CODE	DIP SOLDER	CODE	C-PRESS
3	L = .157 [4 mm]	6	L = .669 [17 mm]
V	L = .098 [2.5 mm]	7	L = .512 [13 mm]
	MINI WIRE-WRAP	8	L = .366 [9.3 mm]
5	L = .315 [8 mm]	9	L = .079 [2 mm]
1	L = .512 [13 mm]		
0	L = .669 [17 mm]		

SPECIAL FEATURES

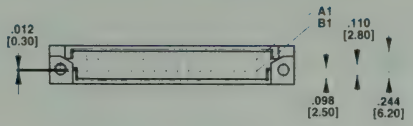
CODE	OPTIONS
C	With Coding
Blank	No Special Options

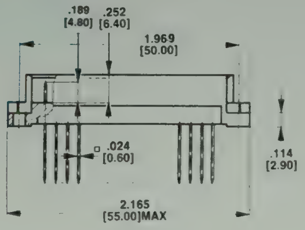
6043 ☐ △ ◺ ◑ *EXAMPLE:* **96P-6043-0731-3**

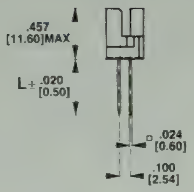
20P-6043 Connector not available in C-Press.

Inverted, Style Half Q and Q/3 Pin

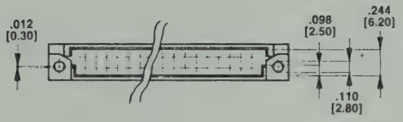
Style Half Q
2 Rows of 16 Positions

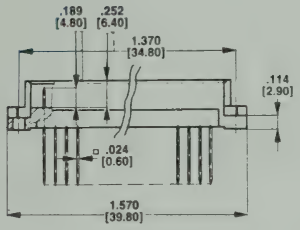




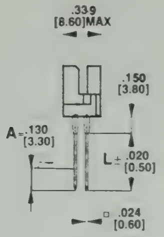


Style Q/3
2 Rows of 10 Positions



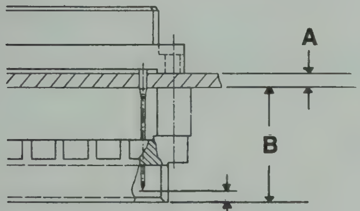


C-Press



Rear Plug Up Capabilities

Press-fit DIN Connector 96S 6033 or 96P 6043



Rear Plug-Up Housing .060 REF [1.524]

Rear Plug-Up Housing Part No.	Press-Fit Connector To Be Used	P.C.B. Thickness "A"	Height of Housing "B"
105867-10	96S-6033-0732-7 or 96P-6043-0732-7	.125	.600
105867-20	96S-6033-0732-6 or 96P-6043-0732-6	.125	.750
105867-40	96S-6033-0732-8 or 96P-6043-0732-8	.125	.450
105867-50	96S-6033-0732-8 or 96P-6043-0732-8	.093	.420

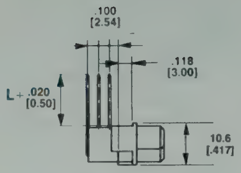
NOTE: All 105867 rear plug-up housings are press-fit over the connector tails and require no mounting hardware. In addition, for prototyping and where press-fit is not desirable, 96P-6043-I0 housings can be used. This housing requires stand-offs and hardware attachment.

6043 Series

Inv. Style R and Half R Socket

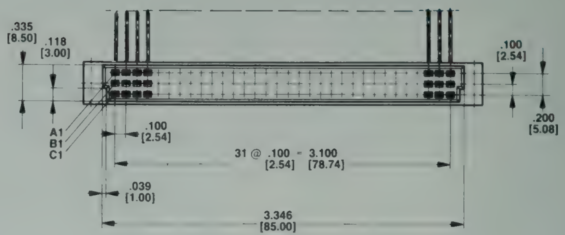
Dimensions

Style R
3 Rows of 32 Positions
Part No. 96S-6043 Only

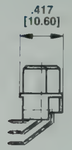


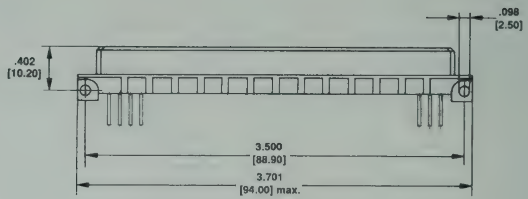
Mini Wire Wrap

Socket connector 96 contacts, style R

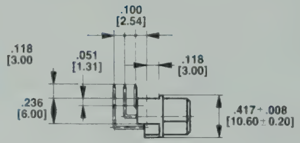


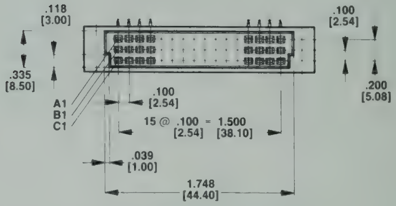
Style R
3 Rows of 32 Positions
Part No. 096S-6043 Only



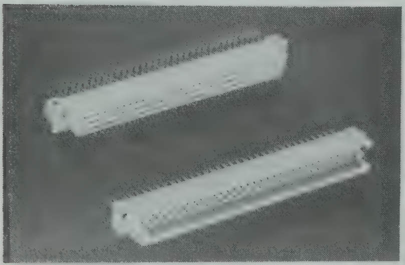


Style Half R
3 Rows of 16 Positions
Part No. 48S-6043 Only





As an enhancement to our Inverted DIN socket series, Winchester has tooled 096S-6043. The 096S contacts were designed with a double bend for mechanical stability and 50% faster board assembly can be achieved.



CATALOG NUMBER

CODE	STYLE PER DIN 41612
20S-6043	Q3, 2 Row Socket Connector
32S-6043	HALF Q, 2 Row Socket Connector
48S-6043	HALF R, 3 Row Socket Connector
96S-6043	R, 3 Row Socket Connector
096S-6043	R, 3 Row Socket Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE		ROW
01	ALL POSITIONS		A
04	"	"	A & B
05	"	"	A & C
07	"	"	A, B & C
14	EVEN POSITIONS		A & B
15	"	"	A & C
17	"	"	A, B & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
58	42 Microinches Gold Over Nickel (0.8 Microns)	Gold Flash
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

CODE	
0	L = .118 [3 mm]
*1	L = .378 [9.6 mm]
**2	L = .146 [3.7 mm]

SPECIAL FEATURES

CODE	OPTIONS
C	With Coding
Blank	No Special Options

6043 ☐ △ ◺ ◑

EXAMPLE: **096S-6043-0731-0**

* 96S-6043-**58-1 This W.W. length right angle socket is only available with 42 Microinch Gold and Gold Flash tails (58 designation)

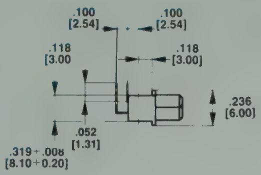
**Available on 96S or 096S

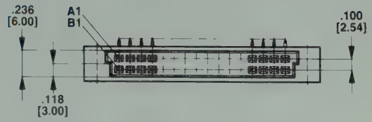
Inv. Style Half Q and Q/3 Socket

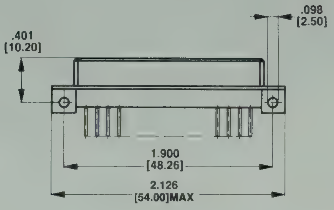
Series 6043

Dimensions

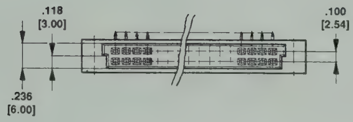
Style Half Q
2 Rows of 16 Positions

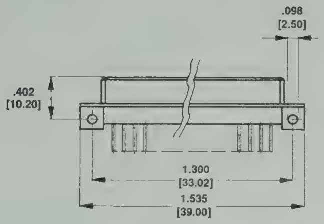






Style Q/3
2 Rows of 10 Positions



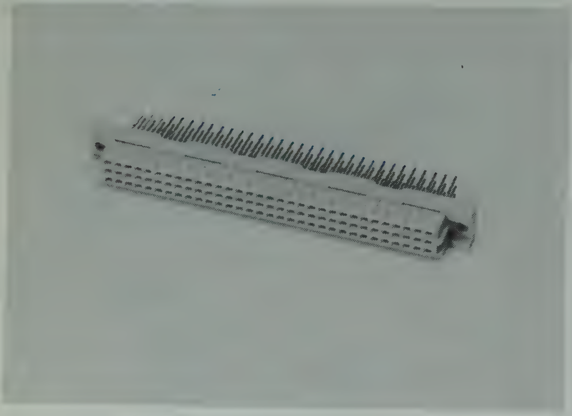


SERIES 6043

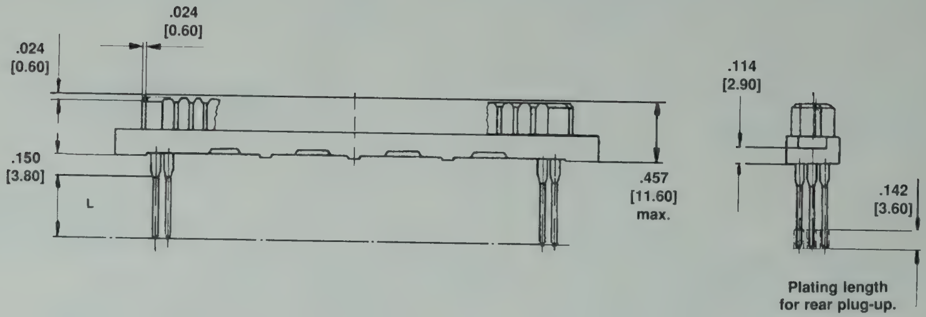
Half 6043

Similar to the half Standard DIN (6033 Series), the Inverted DIN connectors have been tooled in 2 and 3 rows of 16 contacts and 2 rows of 10 contacts.

6133 Series



New Product
Consult Factory For Availability



SERIES 6133

Commonly referred to as "Push on the Insulator" Connector, this press-fit version connector will become the front runner of its sister socket connector (6033 Series). This connector is available in all different tail lengths. The difference between this connector and the 6033 series version is that this connector does not require any tooling for installation into the motherboard or backpanel.

CATALOG NUMBER

CODE	STYLE PER DIN 41612
96S-6133	C, 3 Row Socket Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
01	ALL POSITIONS	A
04	" "	A & B
05	" "	A & C
07	" "	A, B & C
14	EVEN POSITIONS	A & B
15	" "	A & C
17	" "	A, B & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

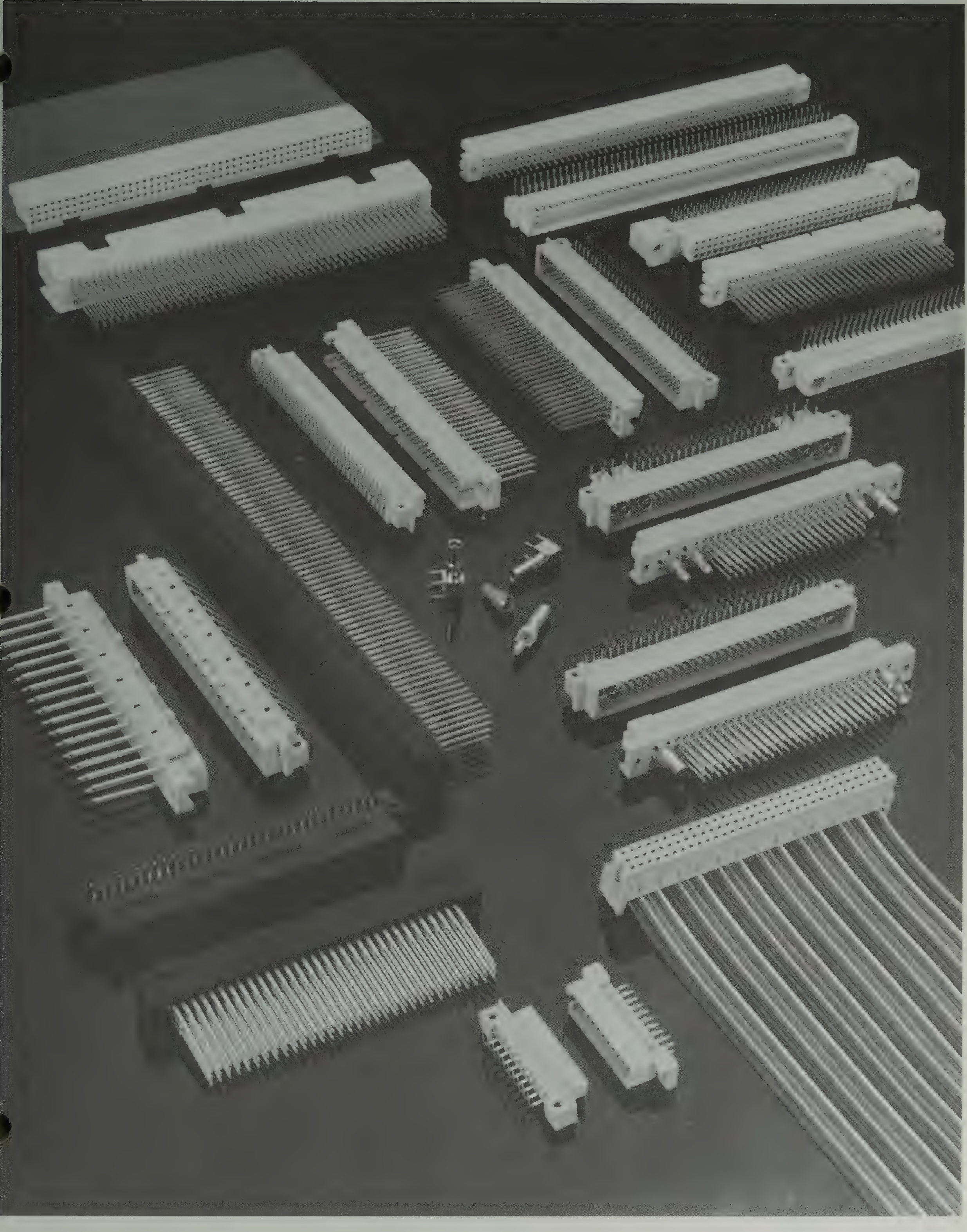
CODE	C-PRESS
6	L = .638 [16.2 mm]
7	L = .524 [13.3 mm]
8	L = .303 [7.7 mm]
9	L = .079 [2 mm]
b	L = .366 [9.3 mm]

SPECIAL FEATURES

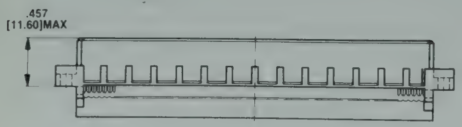
CODE	OPTIONS
C	With Coding Device
F	Without Mounting Flange
Blank	No Special Options

6133 ☐ △ ◺ ◑

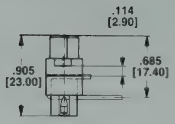
EXAMPLE: **96S-6133-0731-9**



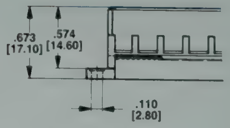
Socket Connector 96 contacts style C



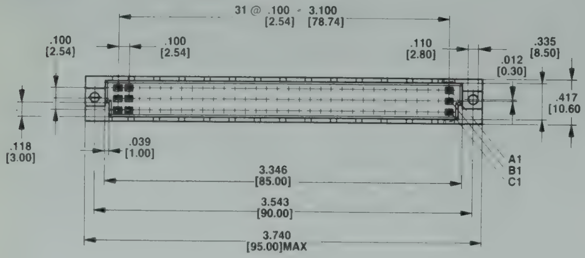
With standard mounting flange, without strain relief;
Pressure member pre-latched

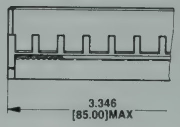


With strain relief



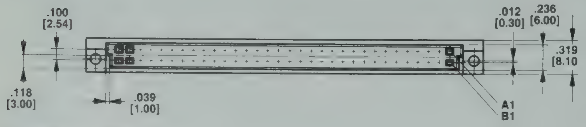
Rear mounting flange



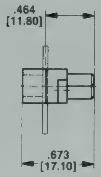


Without mounting flange

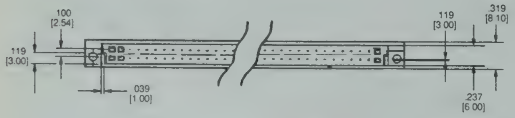
Socket Connector 64 contacts, style B



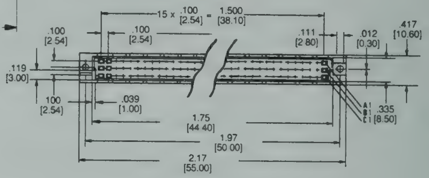
Flat cable terminated



Socket Connector
32 Contacts - Style Half B



Socket Connector
48 Contacts - Style Half C



SERIES 6053

Complete Flat Cable Interconnection System

Increased Packaging Versatility

This socket DIN connector terminates to flat ribbon cable using the Winchester Electronics Flex-Com® IDC (Installation Displacement Connection) termination. Three mounting ear configurations with or without strain relief enables this connector to cover a wide range of applications. When used with other Standard or Inverted DIN plug connectors, wire to board applications are achieved. However, the most popular usage is plug-on capability to the gold plated wire wrap tails of any DIN connector. In this respect the DIN plug and receptacle concept becomes a total interconnect system.

CATALOG NUMBER

CODE	STYLE PER DIN 41612
32S-6053	Half B, B2 Row Connector
48S-6053	Half C, C3 Row Connector
64S-6053	Half B, B2 Row Connector
96S-6053	Half C, C3 Row Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
02	ALL POSITIONS	B
04	" "	A & B
05	" "	A & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns) Consult Factory For Other Platings	Tinned

TERMINATION

CODE	IDC FOR FLAT CABLE
1	AWG 28/7 and AWG 30/1
2	AWG 26/7 and AWG 28/1

MOUNTING

CODE	MOUNTING FLANGE	STRAIN RELIEF
1	No Flange	Without
2	No Flange	With
3	Standard Flange	Without
4	Standard Flange	With
5	Rear Flange	Without
6	Rear Flange	With

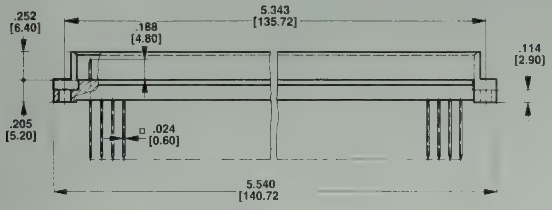
SPECIAL FEATURES

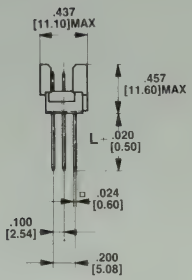
CODE	OPTIONS
C	With Coding
Blank	No Special Options

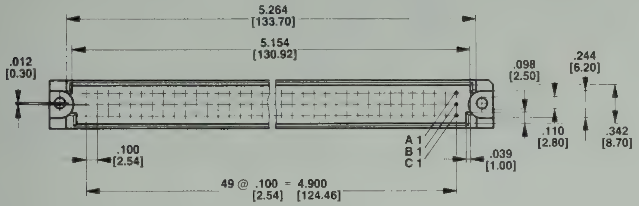
6053 ☐ △ ◺ ◪ ◑ *EXAMPLE:* **96S-6053-0531-13**

Dimensions

Pin Connector 150 contacts
complies with style R







CATALOG NUMBER	CODE	STYLE PER DIN 41612
	150P-6083	R, Pin Connector

CONTACT CONFIGURATION	CODE	CONTACT SEQUENCE		ROW
	01	ALL POSITIONS		A
	04	"	"	A & B
	05	"	"	A & C
	07	"	"	A, B & C
	14	EVEN POSITIONS		A & B
	15	"	"	A & C
	17	"	"	A, B & C

SURFACE TREATMENT	CODE	CONTACT AREA	TERMINAL
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns) Consult Factory For Other Platings	Tinned

TERMINATION	CODE	MINI WIRE-WRAP	CODE	DIP SOLDER
	5	L = .315 [8 mm]	3	L = .157 [4 mm]
	1	L = .512 [13 mm]	V	L = .098 [2.5 mm]
	0	L = .669 [17 mm]		

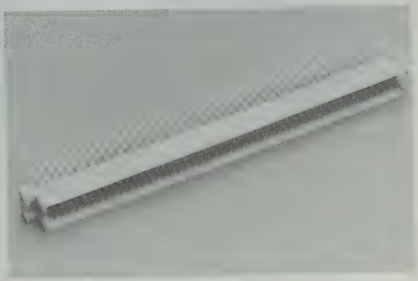
6083 ☐ △ ◺

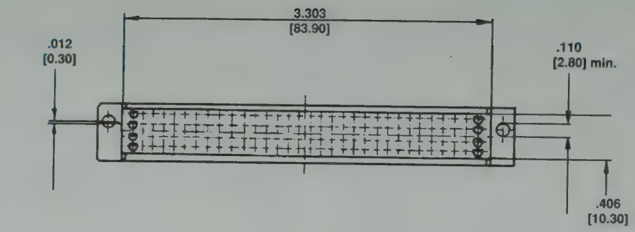
EXAMPLE: **150P-6083-0731-0**

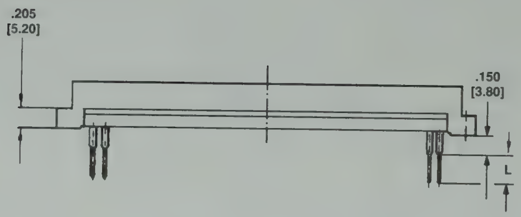
SERIES 6083

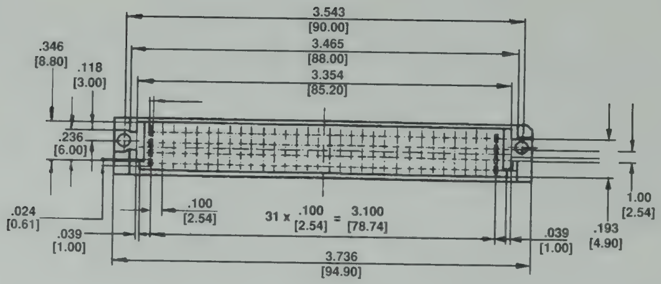
Complementary to Series 6073

Following the American market demand for "Expanded DIN", this series is tooled in the Inverted DIN format.









CATALOG NUMBER	**CODE**	**STYLE R PER DIN 41612**	
	128P-6101	R, Pin Connector	

CONTACT CONFIGURATION	**CODE**	**CONTACT SEQUENCE**	**ROW**
	08	1,2,3 . . . 32	a+b+c+d

SURFACE TREATMENT	**CODE**	**CONTACT AREA**	**TERMINAL**
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
		Consult Factory For Other Platings	

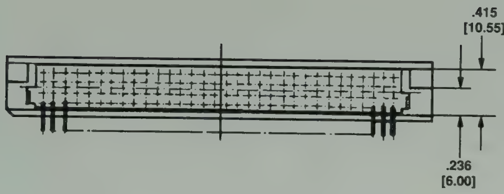
TERMINATION	**CODE**	**C-PRESS**
	-6	L = .669 [17mm]
	-7	L = .512 [13mm]
	-8	L = .366 [9.3mm]
	-9	L = .079 [2mm]
	-a	L = .166 [4.2mm]

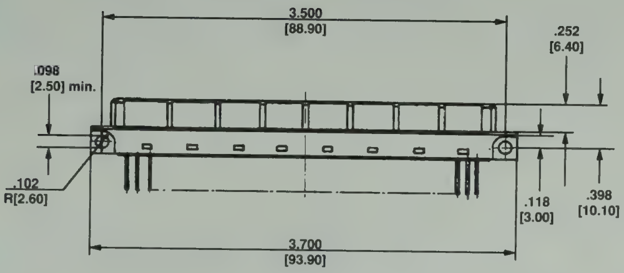
SPECIAL FEATURES	**CODE**	**OPTIONS**
	-C	With Coding
	-E1	Outer Pins Of Row A Extended
	-E16	Outer Pins Of Rows A,B,C,D Extended
		Further Variations Upon Request

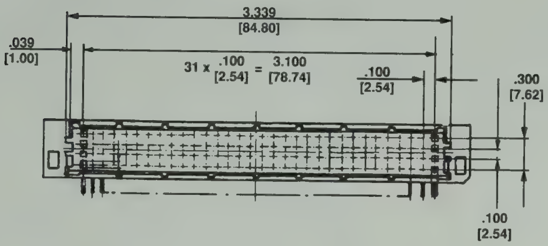
6101 □ △ ◺ ◑

**NEW PRODUCT
CONSULT FACTORY
FOR AVAILABILITY**

Series 6101







CATALOG NUMBER — **CODE** 128S-6101 — **STYLE R PER DIN 41612** R, Socket Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
08	1,2,3 . . . 32	a+b+c+d

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned

Consult Factory For Other Platings

TERMINATION

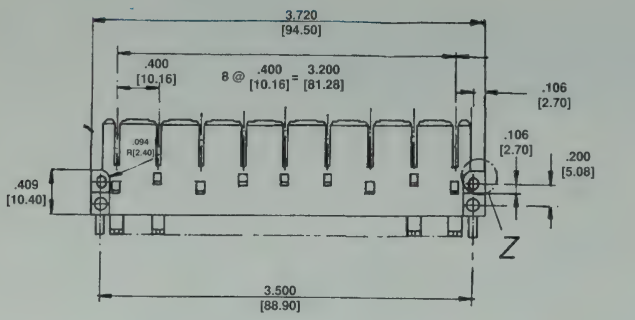
CODE	C-PRESS	
-0	L = .118 [3mm]	solder
-2	L = .146 [3.7mm]	solder
-3	L = .177 [4.5mm]	solder

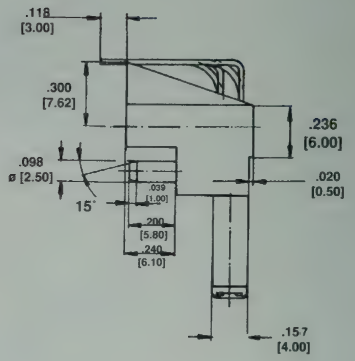
SPECIAL FEATURES

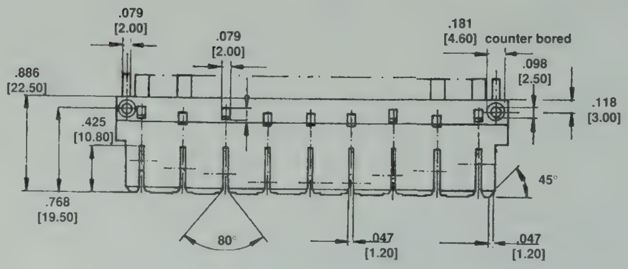
CODE	OPTIONS
-C	With Coding
Blank	No Special Options

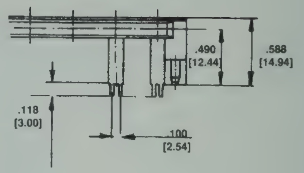
6101	□	△	◺	◑

SOCKET CONNECTOR









Contacts

Series

Contact Arrangement
-0.1 : fully loaded

Plating
Consult factory for options.

Termination - C-Press
-6 L=.669 [17mm] -8 L=.366 [9.3mm]
-7 L=.512 [13mm] -9 L=.079 [2mm]

09P	6035	01	*	7

Contacts

Series

Contact Arrangement
-0.1 : fully loaded

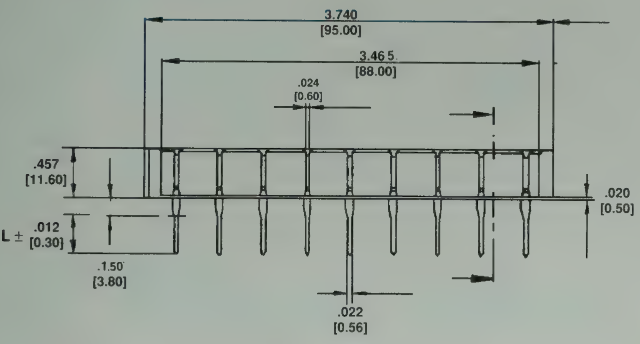
Plating
Consult factory for options.

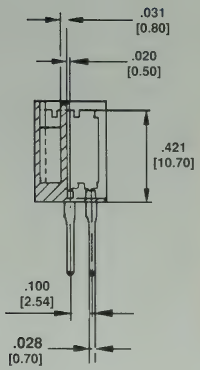
09S	6035	01	*

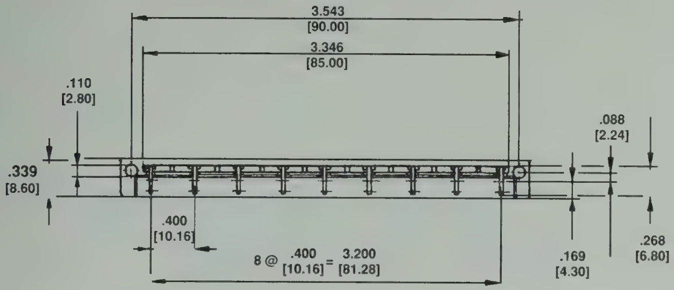
New Product
Consult Factory For Availability

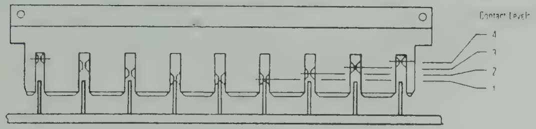
This power adaptor is referred to as the "balcony" connector because it can be added onto DIN connectors to address power and pin sequencing solutions. Rated at 6A @ 70°C the socket contacts supply four secure levels of advance contact capability.

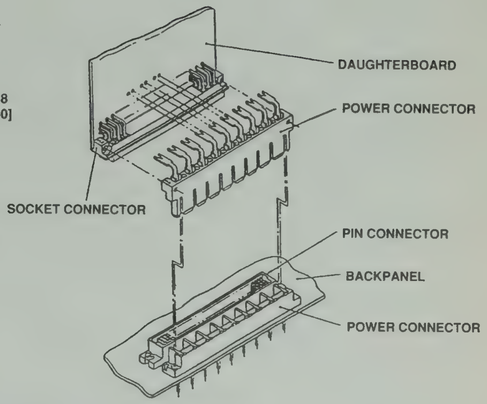
PIN CONNECTOR

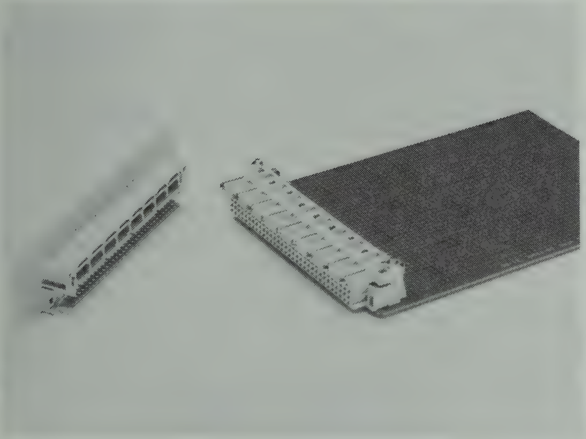


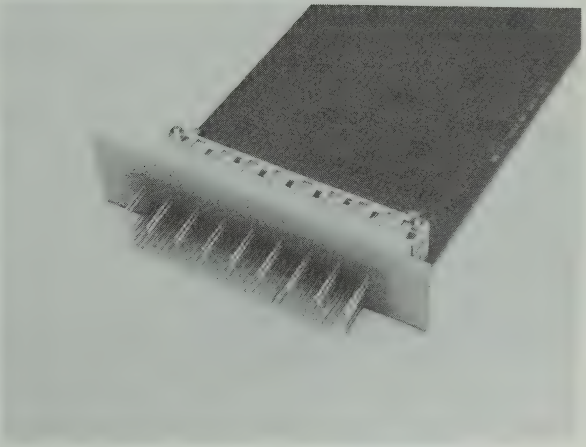






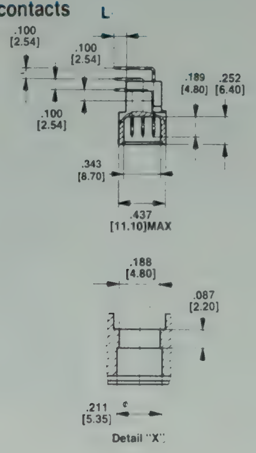


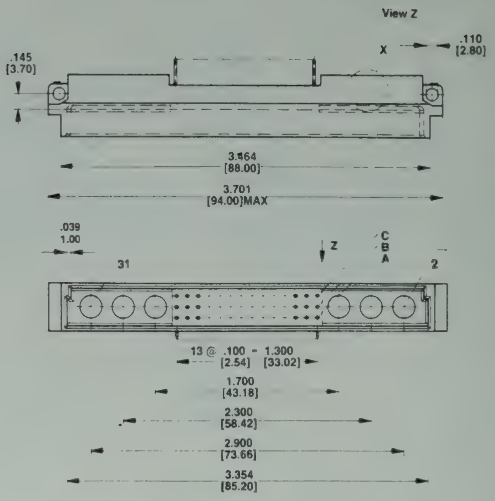




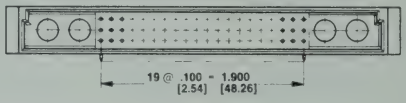
6063 Series

Pin Connector 42 contacts

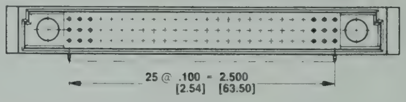




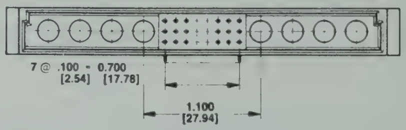
Pin Connector 60 contacts



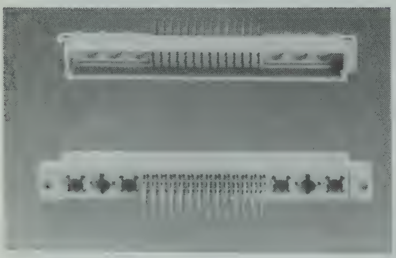
Pin Connector 78 contacts



Pin Connector 24* contacts



* Contact number not included in DIN 41612, style M



CATALOG NUMBER	CODE	STYLE PER DIN 41612
	24P-6063	M24, Pin Connector (Not in DIN 41612, Style M)
	42P-6063	M42, Pin Connector
	60P-6063	M60, Pin Connector
	78P-6063	M78, Pin Connector

CONTACT CONFIGURATION	CODE	CONTACT SEQUENCE	ROW
	01	ALL POSITIONS	A
	04	" "	A & B
	05	" "	A & C
	07	" "	A, B & C
	14	EVEN POSITIONS	A & B
	15	" "	A & C
	17	" "	A, B & C

SURFACE TREATMENT	CODE	CONTACT AREA	TERMINAL
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
		Consult Factory For Other Platings	

TERMINATION	CODE	DIP SOLDER
	0	L = .118 [3 mm]

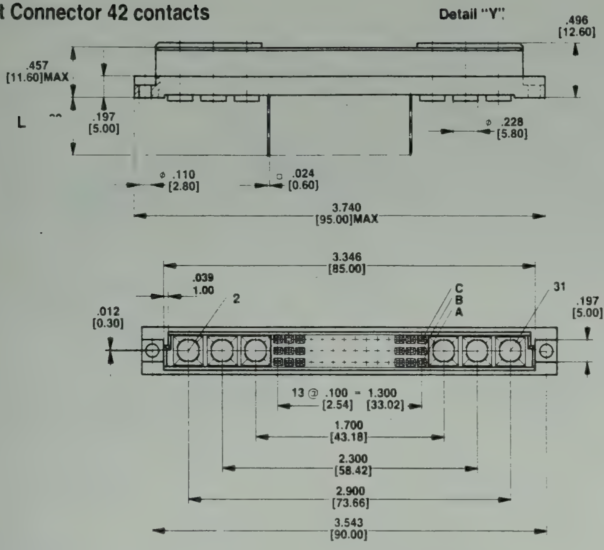
SPECIAL FEATURES	CODE	OPTIONS
	C	With Coding Device
	E1	Outer Pins of Row A Extended
	E3	Outer Pins of Row C Extended
	E13	Outer Pins of Row A & C Extended
	Blank	No Special Options

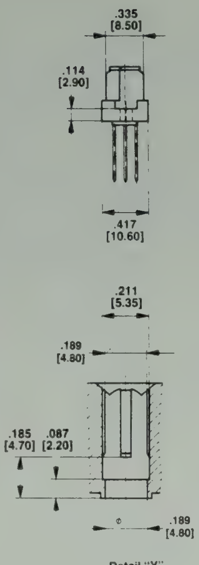
6063 □ △ ◺ ◑

EXAMPLE: **42P-6063-0731-0**

Dimensions

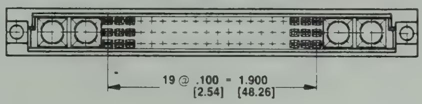
Socket Connector 42 contacts



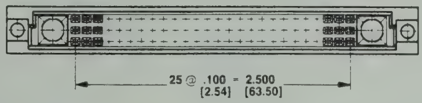


Detail "Y"

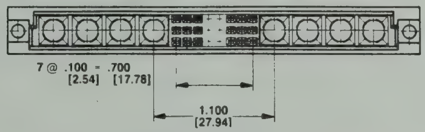
Socket Connector 60 contacts



Socket Connector 78 contacts



Socket Connector 24* contacts



* Contact number not included in DIN 41612, style M

CATALOG NUMBER

CODE	STYLE PER DIN 41612
24S-6063	M24, Socket Connector (Not in DIN 41612, Style M)
42S-6063	M42, Socket Connector
60S-6063	M60, Socket Connector
78S-6063	M78, Socket Connector

CONTACT CONFIGURATION

CODE	CONTACT SEQUENCE	ROW
01	ALL POSITIONS	A
04	" "	A & B
05	" "	A & C
07	" "	A, B & C
14	EVEN POSITIONS	A & B
15	" "	A & C
17	" "	A, B & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

CODE	DIP SOLDER	CODE	MINI WIRE WRAP
V	.024 x .012 L = .098 [2.5 mm]	5	L = .287 [7.3 mm]
2	.024 x .012 L = .158 [4 mm]	1	L = .512 [13 mm]
4	Solder eyelet	0	L = .669 [17 mm]

SPECIAL FEATURES

CODE	OPTIONS
C	With Coding
Blank	No Special Options

6063	☐	△	◺	◑

EXAMPLE: **42S-6063-0731-2**

SERIES 6063

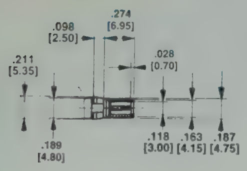
Free Choice of Contact Equipment - Telecom and Power Supplies Applications

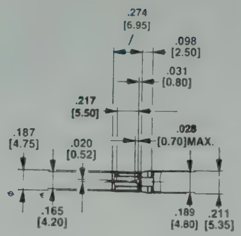
Referred to as "Multipurpose DIN", this connector combines the usage of signal contacts with high current, high voltage, coax and, in the very near future, fiber-optic contacts. The special contacts are ordered separately and can be used in 4 configurations: one, two or three special contact position on each end are recognized by DIN 41612. Winchester Electronics has also tooled a 4 special position per side configuration.

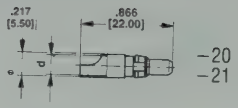
Series 6063/6093

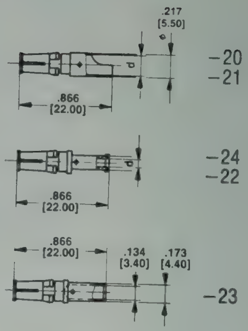
Dimensions

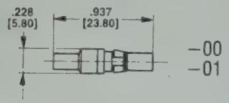
Mating Conditions

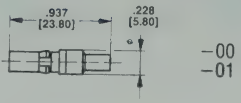


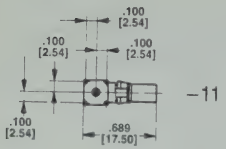


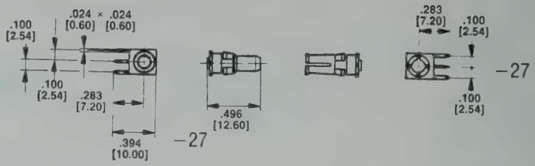


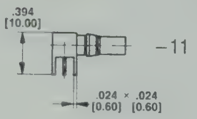


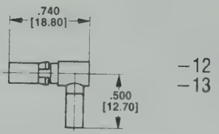


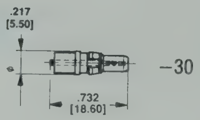


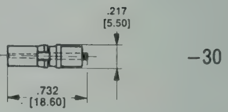












Technical Data

Coaxial contacts

Body/outer contact	CuZn 39 Pb 2
Spring parts	CuBe
Insulators	PTFE
Plating	See ordering information
Fixing clip	CuBe
Crimp barrel	Cu
Impedance	50 ohms
Operating frequency	Max. 30 GHz
Reflection	Max. 0.05 to 1 GHz Max. 0.07 to 4 GHz Max. 0.1 to 10 GHz
Peak voltage	750 V_{eff} 50 Hz
Insulation resistance	10^6 M ohms
Temperature range	-65° C to + 165° C
Cable	See ordering information

High current contacts

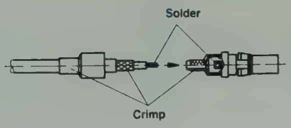
Pin contact	CuZn
Socket contact	CuSn
Fixing clip	CuBe
Plating	See ordering information
Current rating	30A at 70°C Consider cable limitations
Contact resistance	Max. 1 M ohms
Temperature range	-55°C to + 125°C

High voltage contacts

Body	POM
Pin contact	CuZn
Socket contact	CuSn
Fixing clip	CuBe
Max. operating voltage	3.8 kV
Current rating	1.5 A at +70°C
Contact resistance	Max. 10M ohms
Insulation resistance	Min. 10^{12} ohms
Plating	15 Microinches Au over Ni

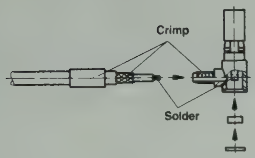
Dimensions

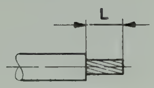
Coaxial contacts

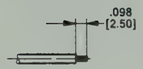


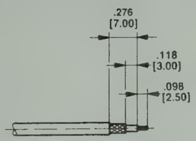
High current contacts

High voltage contacts

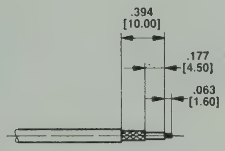




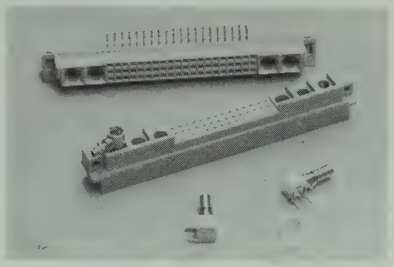




Straight socket/pin



Right angle socket/pin



SERIES 6063/6093 SPECIAL CONTACTS

These contacts are intended for use with Series 6063/6093 pin and socket connectors. The user can easily insert these contacts into the moldings. If necessary they can be removed with a special hand-tool.

CONTACT TYPE	CODE	Contact Type	Insertion into
	01S-6063*	Socket Contact	Socket connector 6063/6093
	01P-6063*	Pin Contact	Pin connector 6063/6093

STYLE	CODE	STYLE	TERMINATION	TO BE TERMINATED TO
	00	Coaxial contact straight	Center wire solder Shield crimp	RG178B/U, RG196A/U
	01	Coaxial contact straight	Center wire solder Shield crimp	RG174A/U, RG188A/U
	11	Coaxial contact[2]	Dip solder	PC-board
	12	Coaxial contact[1] Right angled	Center wire solder Shield crimp	RG178B/U, RG196A/U
	13	Coaxial contact[1] Right angled	Center wire solder Shield crimp	RG174A/U, RG188A/U
	20	High current contact	Solder d = .187 [4.75mm]	Wire .394 [10mm] [2]
	21	High current contact	Solder d = .138 [3.5mm]	Wire .236 [6mm] [2]
	22	High current contact [1]	Crimp d = .094 [2.4mm]	Wire .098 [2.5mm] [2]
	23	High current contact [1]	Crimp d = .134 [3.4mm]	Wire .236 [6mm] [2]
	24	High current contact [1]	Crimp d = .075 [1.9mm]	Wire .079 [2mm] [2]
	27	High current contact	Dip solder	PC-board
	30	High voltage contact	Solder	Wire 0.75 [19mm] [2]

[1]Socket only [2]Pin only

SURFACE TREATMENT	CODE	CONTACT AREA	TERMINAL
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	32	30 Microinches Gold Over Nickel (0.8 Microns)	Goldflash
		Consult Factory For Other Platings	

01S-6063 ☐ ☐

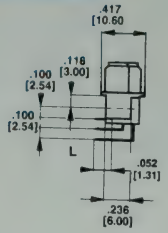
EXAMPLE: **01S-6063-0031**

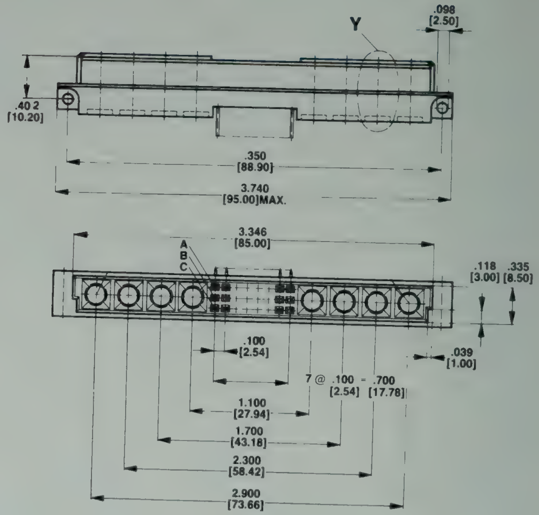
*Attention: Ordering no. relates to type of molding and **not** to sex of special contact.

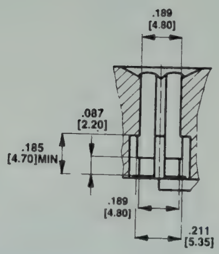
Inverted Socket COMPLIES WITH STYLE M

Dimensions

Socket Connector 24 contacts

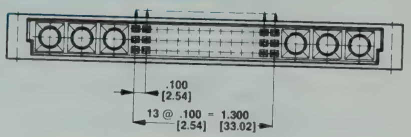




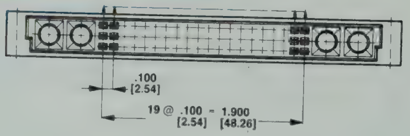


Detail Y

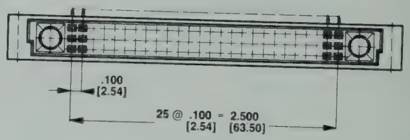
Socket connector 42 contacts



Socket connector 60 contacts



Socket connector 78 contacts



SERIES 6093

For Expanded Board Applications

Winchester Electronics has tooled an Inverted Multipurpose Pin and Socket Connector. This special connector will serve extender board application with the standard multipurpose connector (6063) Series). The Pin Connector has been designed with our C-Press contacts.

CATALOG NUMBER

CODE	STYLE PER DIN 41612	Inverted Style M
06S-6093	M06, Socket Connector	
24S-6093	M24, Socket Connector (Not in DIN 41612, Style M)	
42S-6093	M42, Socket Connector	
60S-6093	M60, Socket Connector	
78S-6093	M78, Socket Connector	

CONTACT

CODE	CONTACT SEQUENCE	ROW
01	ALL POSITIONS	A
04	" "	A & B
05	" "	A & C
07	" "	A, B & C
14	EVEN POSITIONS	A & B
15	" "	A & C
17	" "	A, B & C

SURFACE TREATMENT

CODE	CONTACT AREA	TERMINAL
31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	Consult Factory For Other Platings	

TERMINATION

CODE	DIP SOLDER
2	.024 x .012 L = .146 [3.7 mm]
0	.024 x .012 L = .118 [3 mm]

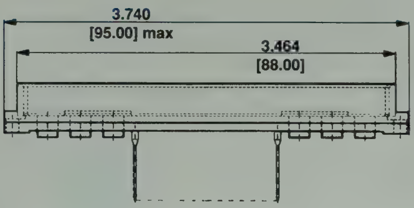
SPECIAL FEATURES

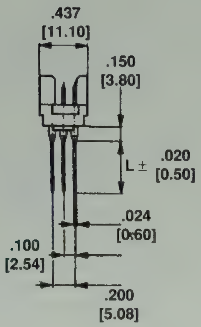
CODE	OPTIONS
C	With Coding
Blank	No Special Options

6093 □ △ ◺ ◑

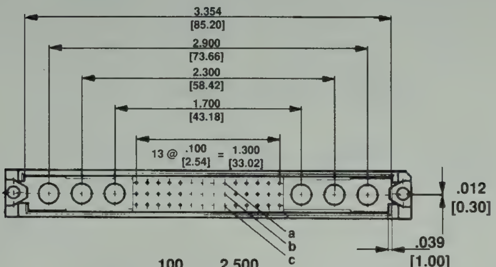
EXAMPLE: **24S-6093-0731-0**

Inverted Pin COMPLIES WITH STYLE M

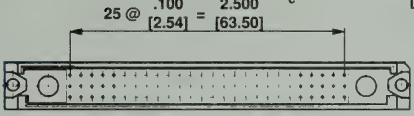




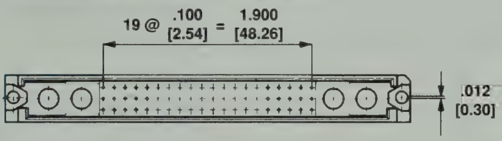
**Pin Connector
42 Contacts**



**Pin Connector
78 Contacts**

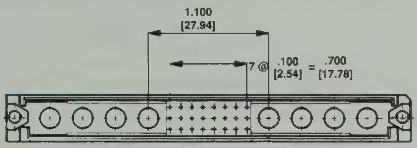


**Pin Connector
60 Contacts**



**NEW PRODUCT
CONSULT FACTORY
FOR AVAILABILITY**

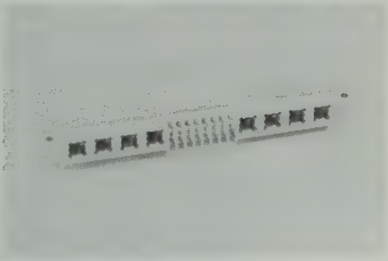
**Pin Connector
24 Contacts**



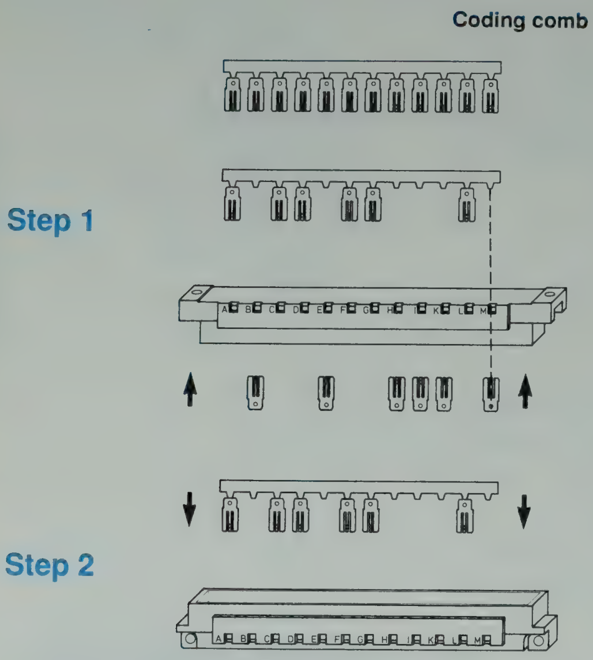
CATALOG NUMBER	CODE	STYLE PER DIN 41612	Inverted Style M
	06P-6093	M06. Pin connector	
	24P-6093	M24. Pin connector (Not in DIN 41612, Style M)	
	42P-6093	M42. Pin connector	
	60P-6093	M60. Pin connector	
	78P-6093	M78. Pin connector	
CONTACT	CODE	CONTACT SEQUENCE	ROW
	01	1,2,3 ... 32	A
	04	1,2,3 ... 32	A & B
	05	1,2,3 ... 32	A & C
	07	1,2,3 ... 32	A, B & C
	14	2,4,6 ... 32	A & B
	15	2,4,6 ... 32	A & C
	17	2,4,6 ... 32	A, B & C
SURFACE TREATMENT	CODE	CONTACT AREA	TERMINAL
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns)	Tinned
		Consult Factory For Other Platings	
TERMINATION	CODE	C-PRESS	
	6	L = .637 [16.2mm]	
	7	L = .523 [13.3mm]	
	8	L = .366 [9.3mm]	
	9	L = .079 [2.0mm]	
	b	L = .303 [7.7mm]	
SPECIAL FEATURES	CODE	OPTIONS	
	C	With Coding	
	Blank	No Special Options	

6093 □ △ ◺ ◑

EXAMPLE: 42P-6093-0731-6



Coding



Purpose of Coding

Most connectors can be equipped with a coding device which accepts up to 12 coding keys resulting in 924 variations.

The system is designed so that:
a) packaging density is not affected
b) the lead-in chamfers of pin and socket connector take care of proper alignment before the keys will block.

Socket and pin connectors have max. 12 coding slots. Coding keys from a coding "comb" can be inserted in the coding slots marked A to M.

Ordering Instructions

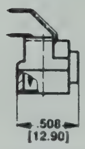
If a connector shall be supplied with coding device, a "C" has to be added to the ordering codes as shown in the individual ordering codes. The coding combs have to be ordered separately, part no. 347-6003-03.

Instructions

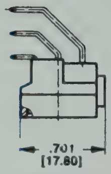
Step 1
Remove any amount or combination of keys from strip by hand. Place keys in proper slots in coding device on connector.

Step 2
Take balance of keys which are still attached to strip. Insert these keys to proper slots of the coding device of mating half of connector. Bend strip off by hand. Now you have developed a coding system.

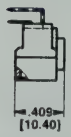
Pin connectors



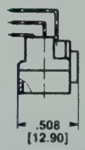
32P-6003



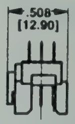
48P-6003



64P-6033

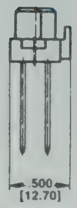


48P-6033

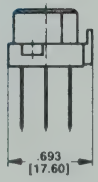


48P-6043

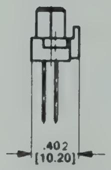
Socket connectors



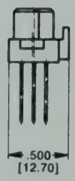
32S-6003



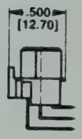
48S-6003



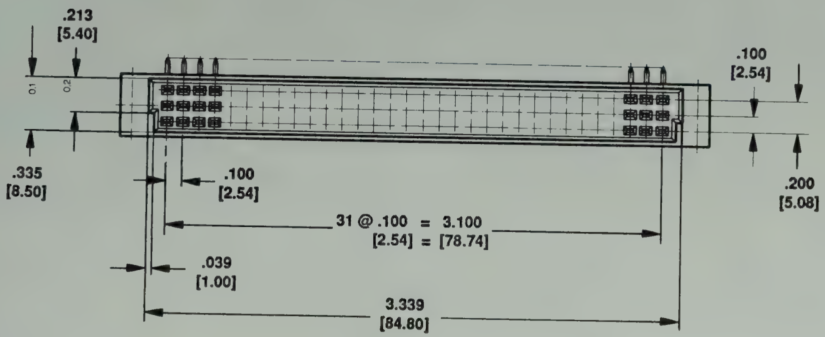
64S-6033



48S-6033



48S-6043



SERIES 6023

This connector is the L.M. Ericsson version f Inverted DIN. It was the first Inverted DIN type connector designed, but is not recognized by the DIN 41612 specification. This version differs from true inverted DIN by standing off the daughterboard an additional .017 inches.

CATALOG NUMBER	**CODE**	**STYLE PER DIN 41612**
	096S-6023	3 Row Socket Connector

CONTACT CONFIGURATION	**CODE**	**CONTACT SEQUENCE**	**ROW**
	01	ALL POSITIONS	A
	04	" "	A & B
	05	" "	A & C
	07	" "	A, B & C
	14	EVEN POSITIONS	A & B
	15	" "	A & C
	17	" "	A, B & C

SURFACE TREATMENT	**CODE**	**CONTACT AREA**	**TERMINAL**
	31	30 Microinches Gold Over Nickel (0.8 Microns)	Tinned
	22	42 Microinches Gold Over Nickel (0.8 Microns) Consult Factory For Other Platings	Tinned

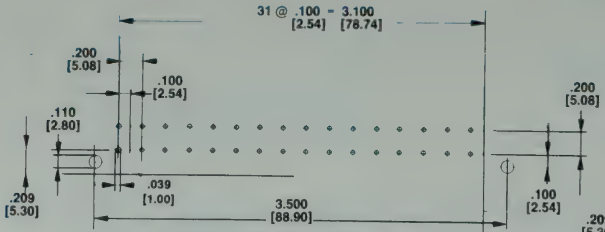
TERMINATION	**CODE**	
	0	L = .118 [3 mm]

SPECIAL FEATURES	**CODE**	**OPTIONS**
	Blank	No Special Options

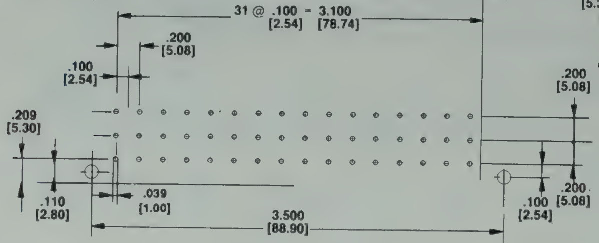
6023 □ △ ◺ ◑ *EXAMPLE:* 096S-6023-0731-0

Hole Patterns

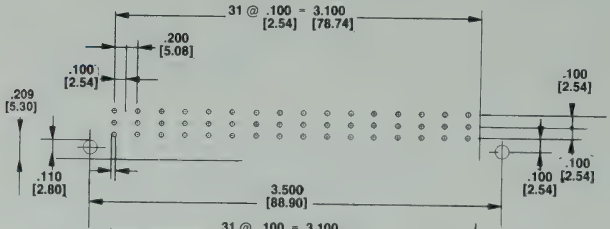
32P—6003



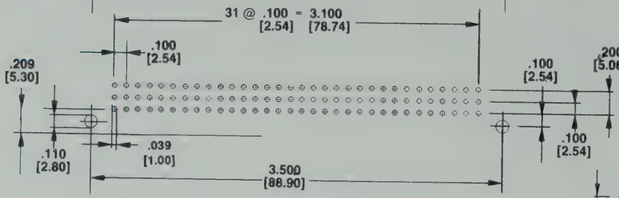
48P—6003



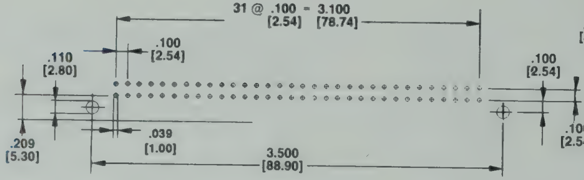
48P—6003
32P—6003



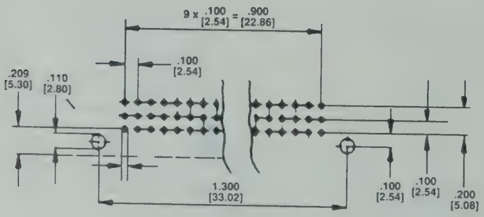
96P—6033
96S—6043



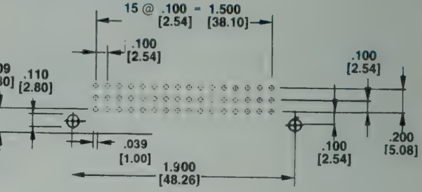
64P—6033

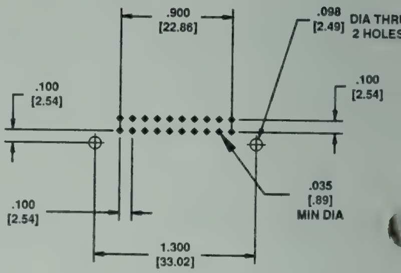


30P—6033

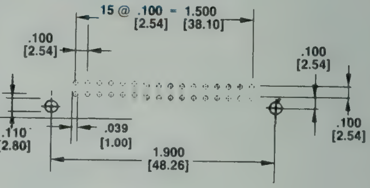


48P—6033
48S—6043



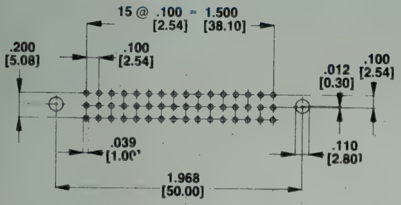


32P—6033
32S—6043

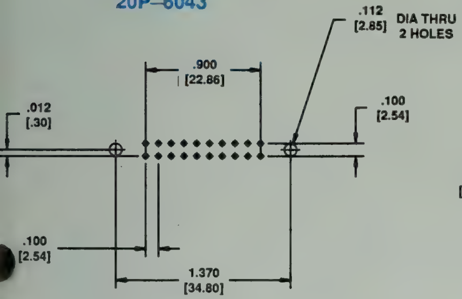


Hole Patterns

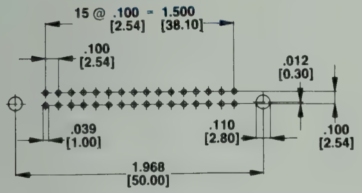
48S–6033
48P–6043

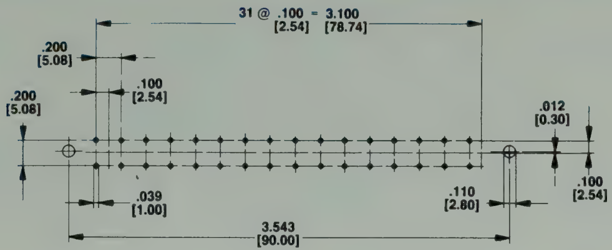


20P–6043

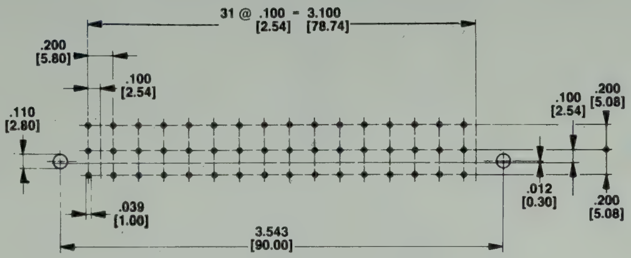


32S–6033
32P–6043

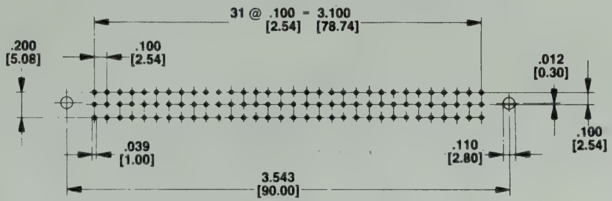




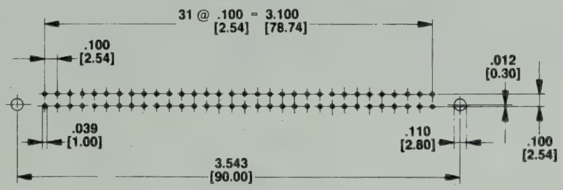
32S–6003



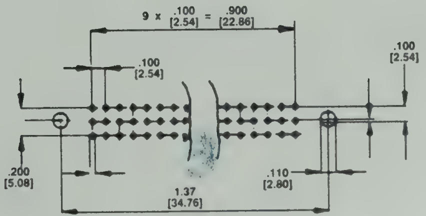
48S–6003



96S–6033
96P–6043



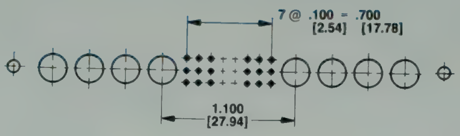
64S–6033



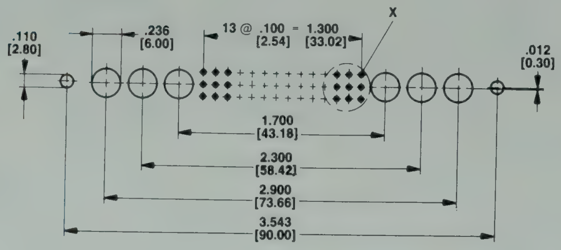
30S–6033

Hole Patterns

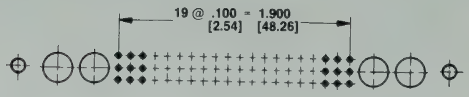
24S—6063



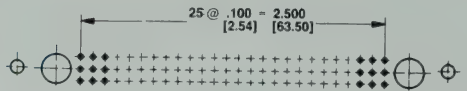
42S—6063



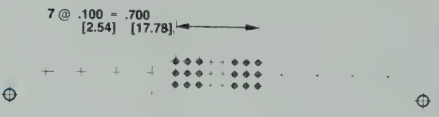
60S—6063



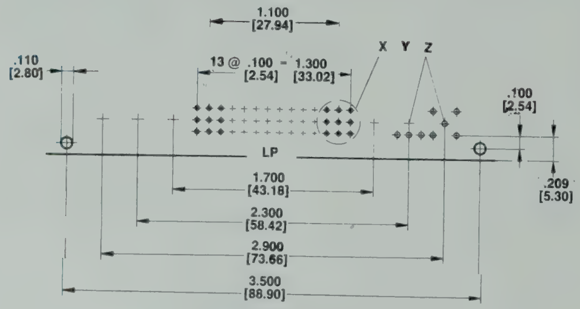
78S—6063



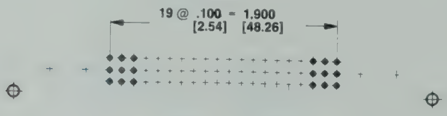
24P—6063
24S—6093



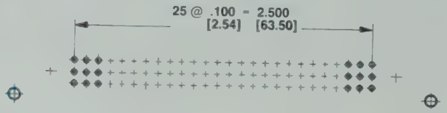
42P—6063
42S—6093

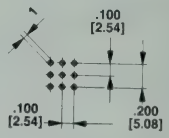


60P—6063
60S—6093

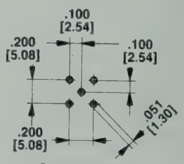


78P—6063
78S—6093



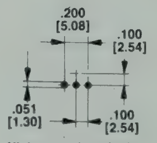


Detail X



Coaxial contact

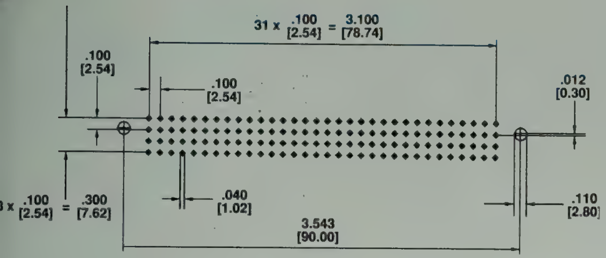
Detail Z



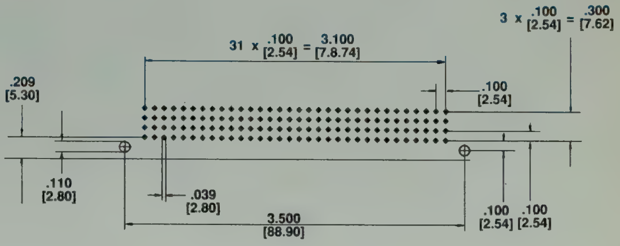
High current contacts

Detail .. Y

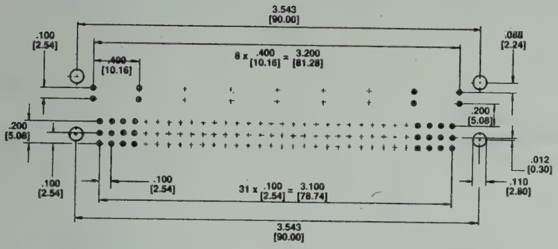
Hole Patterns



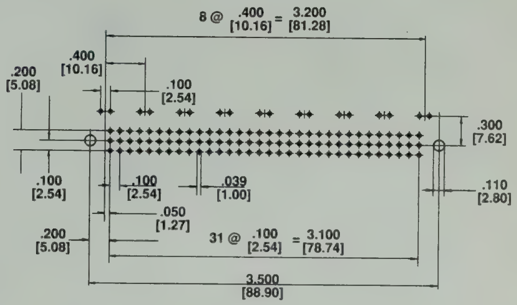
P—6101



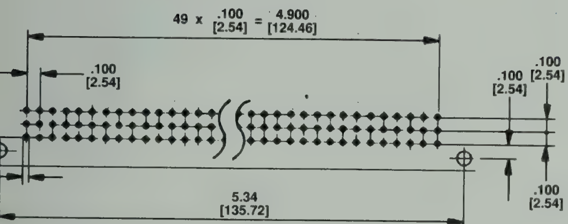
S—6101



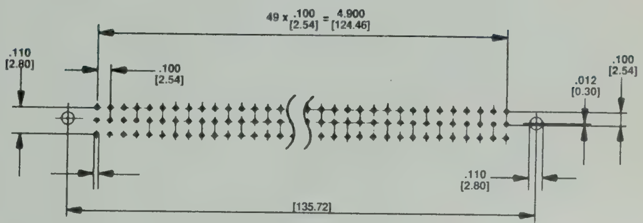
P—6035



S—6035



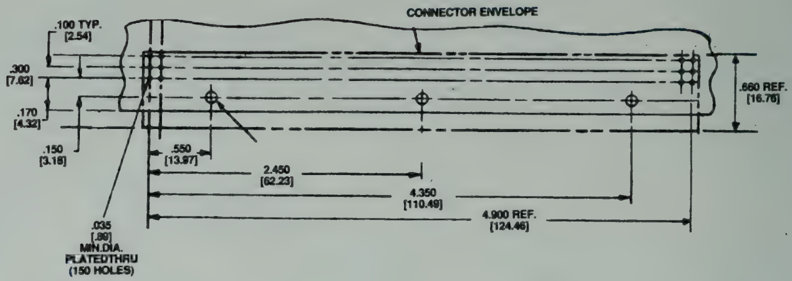
P—6073



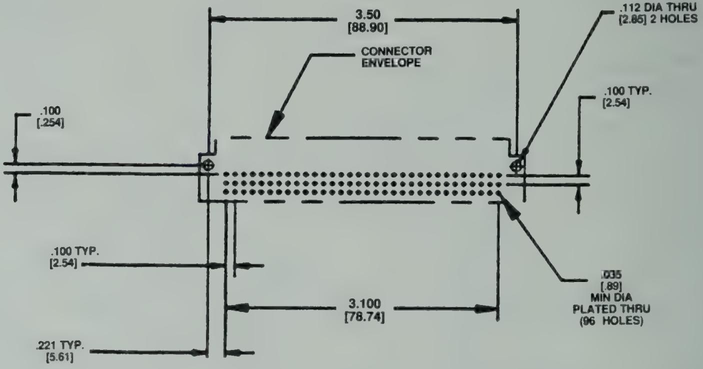
P—6083
S—6073

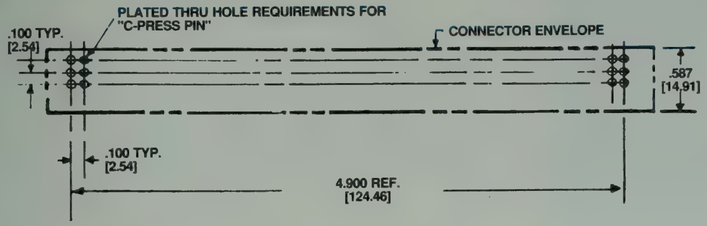
Hole Patterns

91S—50

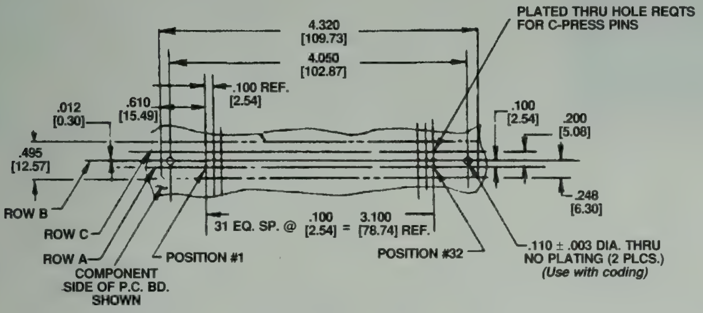


94S-032

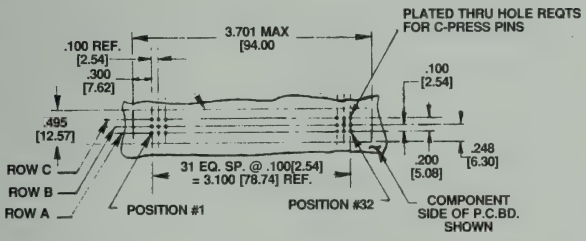




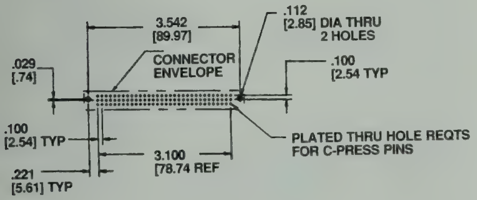
91P—50



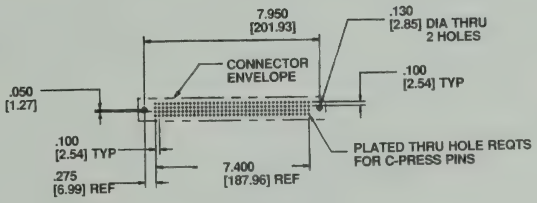
95P—032
with coding



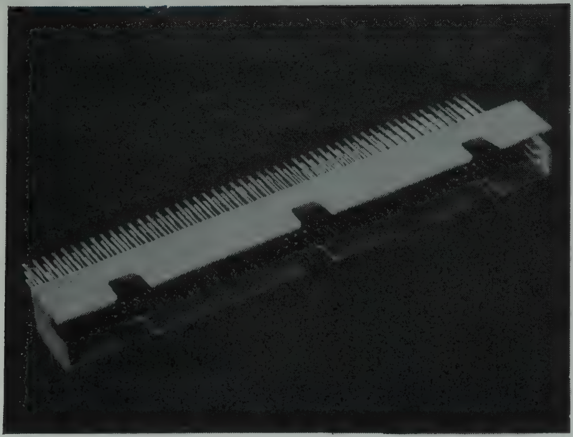
95P—032
without coding



94P—032



98P—075



SERIES 91 Pin and Socket End Stackable Modular Connector

This series was tooled on the footprint of DIN (.100 by .100 spacing) in the Inverted DIN style contact arrangement. Higher board density was achieved by the elimination of the DIN style mounting ears. Utilizing heat staked, hold down features on the daughterboard connector, this connector is end stackable. In this manner, 300 Input/Output contacts only use 10.3 inches of board length. The 91 Series was tooled in 3 x 50 and 3 x 68 dedicated configurations. With end stacking modularity, this Series offers high density flexibility and lower insertion forces than DIN. 3 x 50 is available in both Pin & Socket versions. The 3 x 68 is only available in the Socket version. For information on the 3 x 68 version, please consult the Sales Dept.

STEP 1

SERIES CODE:
Series 91
P = Pin Connector

STEP 2

NO. OF CONTACT POSITIONS PER ROW: [1]
50 Standard
(For other sizes, consult sales dept.)

STEP 3

NOMINAL DAUGHTER CARD THICKNESS:
A = .062" Thick
B = .093" Thick

STEP 4

ROWS LOADED:
0 = No contacts installed
1 = Rows A, B & C
2 = Rows A & B
3 = Rows A
4 = Rows B & C
5 = Rows A & C

STEP 5

TAIL LENGTH & F.M.L.B. OPTIONS:
Omit when no contacts are installed.

2 = 2 Level W.W.	A = .650 [16.51]	B = .512 [13.00]
3 = 3 Level W.W.	A = .810 [20.57]	B = .669 [17.00]

STEP 6

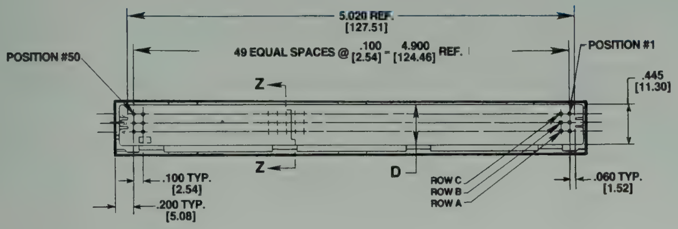
PLATING:
Omit when no contacts are installed.
542 - .000030 Au selective plating over .000050 Ni on contact area. Bright Solder on remainder.
559 - .000030 Au selective plating over .000050 Ni on contact area, Au Flash on remainder.

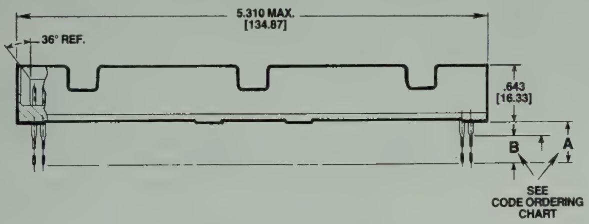
GOLD FLASH ----------- .000002 to .000005 gold.
BRIGHT SOLDER ----- .000050 to .000100 bright solder.

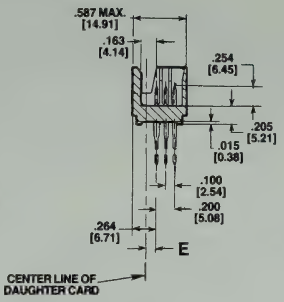
91P	* *	◑	◪	◺	△

NOTE:
[1] The 50 position connector is a standard 1 piece construction, all other sizes are made up of **2 paired, End Stackable Modules.**

STANDARD 50 POSITION PIN MODULE



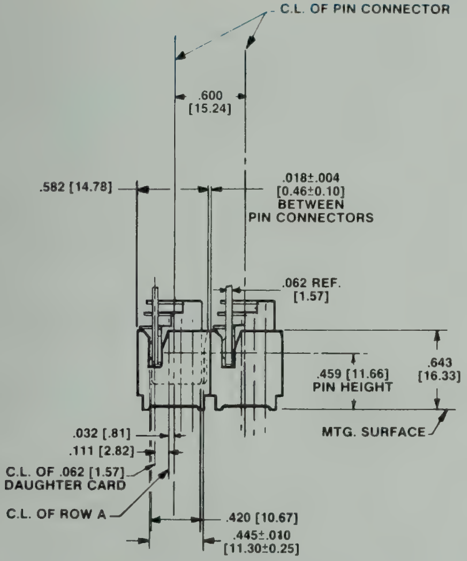




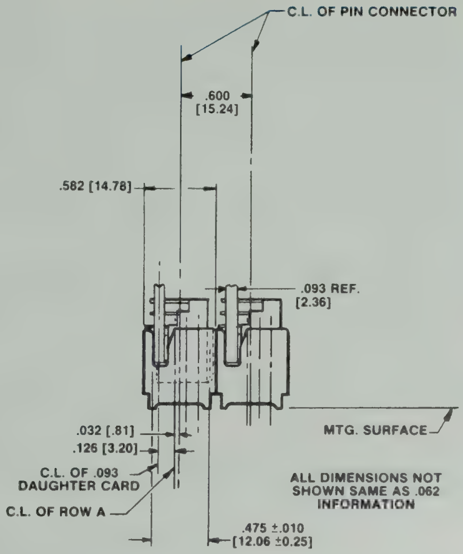
SECTION Z-Z

CATALOG NO.	Nom. Daughter Card Thickness	E REF.	D±.010	A±.02	B±.004
91P50A	.062″	.111 [2.82]	.445 [11.30]	.650 [16.51]	.512 [13.00]
91P50B	.093″	.126 [3.20]	.475 [12.06]	.810 [20.57]	.669 [17.00]

MOUNTING INFORMATION FOR .062″ DAUGHTER CARD

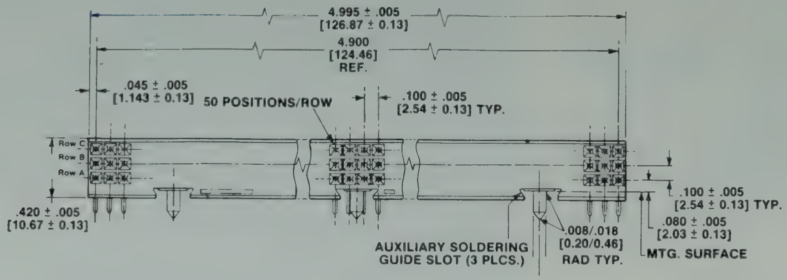


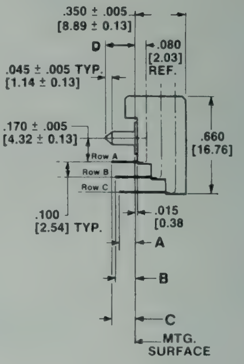
MOUNTING INFORMATION FOR .093″ DAUGHTER CARD

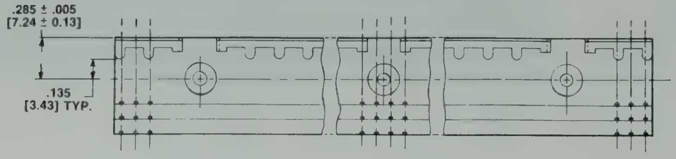


ALL DIMENSIONS NOT SHOWN SAME AS .062 INFORMATION

STANDARD 50 POSITION SOCKET MODULE







Dimensions

Catalog No.	Nom. Daughter Card Thickness	A ± .015	B ± .015	C ± .015	D ± .015
91S50A	.062"	.112 [2.84]	.124 [3.15]	.136 [3.45]	.200 [5.08]
91S50B	.093"	.143 [3.63]	.143 [3.63]	.183 [4.65]	.270 [6.86]

STEP 1

SERIES CODE:
Series 91
S = Socket Connector

STEP 2

NO. OF CONTACT POSITIONS PER ROW:
50, 68 only

STEP 3

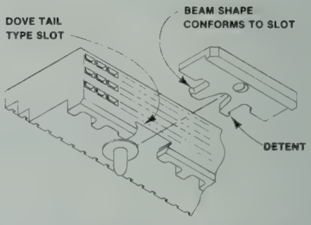
NOMINAL DAUGHTER CARD THICKNESS:
A = .062" Thick
B = .093" Thick

STEP 4

ROWS LOADED:
1 = Rows A, B & C
2 = Rows A & B
3 = Rows A
4 = Rows B & C
5 = Rows A & C

Consult factory for plating options.

91S	* *	◑	◪	



CAT. NO. 109-106003
Re-Usable Snap-On Solder Guide

C-Press Compliant Contact Technical Data

General

Material:	Copper Alloy
Plating:	Gold over Nickel and/or Tin-Lead
Current Rating:	3 Amperes continuous
Operating Temperature:	-55° C to +105° C.

Recommended Printed Circuit Board (PCB) Parameters

PCB Thickness: .093" nominal and thicker

Consult factory for PCB thicknesses less than .093" nominal.

Standard C-Press Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

Small Diameter P.T.H. for Series 84 & 184

1. Before thru-hole plating .037 to .039.
2. Copper plating thickness .001 to .0025.
3. Solder plating thickness .0001 to .0008.
4. Final hole dimension must be gaged to $.032^{+.003}_{-.002}$ diameter.

Consult Factory for Bare Copper PTH Application.

ENVIRONMENTAL

Low level contact to plated thru-hole circuit resistance does not increase by more than 1 milliohm, nor is contact retention force less than 7.5 pounds after exposure to the following conditions:

Test	Description	Method
Thermal Aging	1000 hrs. @ 85° C.	MIL-STD-1344, Method 1005
Thermal Cycling	25 cycles from -55° to +105° C.	MIL-STD-1344, Method 1003
Humidity	96 hrs., 40° C., 90-95% RH	MIL-STD-1344, Method 1002
Vibration	2 hrs./axis, 15g sinusoidal, 10 - 2000 Hz	MIL-STD-1344, Method 2005
Physical Shock	18 impacts, 50g half sine, 11 ms duration	MIL-STD-1344, Method 2004
Conditioned Retention	3 cycles of pin insertion and withdrawal	MIL-STD-1344, Method 2007
Salt Spray	5% solution, 48 hrs. 35° C.	MIL-STD-1344, Method 1001
Gas Tight Joint	1:1 Aqueous HC l & NH_3 30 minutes	MIL-C-28859, Sect. 4.7.4.8

MECHANICAL

Description	Requirement*	Results
Contact Torque Resistance	3 inch-ounce minimum	Pass
Low Level Circuit Resistance (Contact to Plated Thru-Hole)	2 milliohms maximum (double sided PCB)	0.5 milliohms typical
Contact Insertion Force	45 pounds maximum	25-35 pounds typical
Contact Retention Force	7.5 pounds minimum	15-30 pounds typical 10 pounds minimum
After 3 Replacement Cycles		
- Retention Force	7.5 pounds minimum	10-25 pounds typical
- Hole Deformation Radius	less than .0015"	Pass
- Hole Wall Damage	more than .0003" copper remaining	Pass

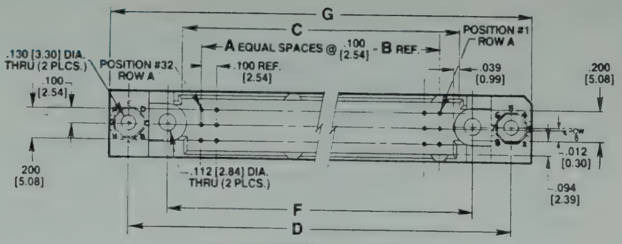
*Requirements per MIL-STD-2166, Compliant Pin Electrical Connections, and MIL-C-28859, General Specification for Printed Wiring Electrical Backplane Connector Component Parts.

Summary The C-Press contact conforms to the applicable requirements of MIL-STD-2166 and MIL-C-28859 for compliant pin electrical connections.

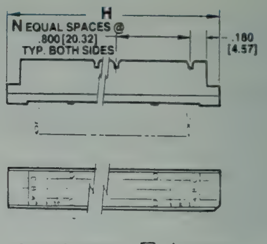
These are general guidelines. For specific information, please refer to product data sheet.

While the information furnished is believed to be accurate and reliable, it is not offered as a product specification.

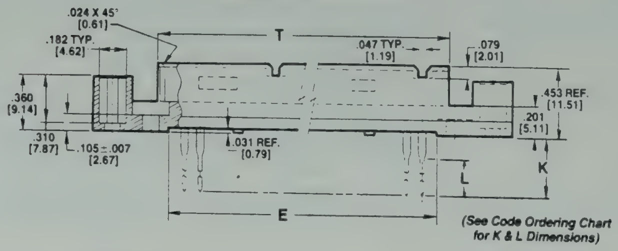
All data is subject to change without notice.

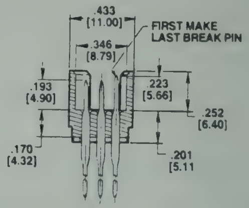


CAT. NO. 94P0322◪◺-△ SHOWN



CAT. NO. 94P0321 ◪ -△ SHOWN

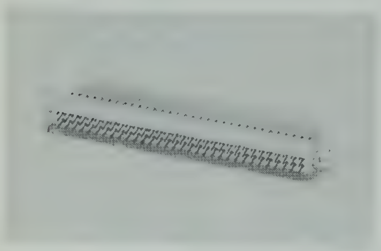




CATALOG NO.	A	B	C	D ±.006	E	F	G ±.008	H ±.006	N	T ±.006
94P050	49	4.900 [124.24]	5.158 [131.01]	5.850 [148.59]	5.11 [129.8]	5.342 [135.69]	6.120 [155.45]	5.534 [140.56]	5	5.261 [133.63]
94P040	39	3.900 [99.06]	4.158 [105.61]	4.850 [123.19]	4.11 [104.4]	4.342 [110.29]	5.120 [130.05]	4.534 [115.16]	4	4.261 [108.23]
94P032	31	3.100 [78.74]	3.358 [85.29]	4.050 [102.87]	3.31 [84.1]	3.542 [89.97]	4.320 [109.73]	3.734 [94.84]	3	3.461 [87.93]

94 Series Inverted DIN

Domestically tooled, this Inverted DIN Series is form, fit and function compatible to Inverted DIN Connectors conforming to DIN 41612. In addition, many American market enhancements have been integrated. These enhancements include expanded sizes (3 rows of 40 and 50 positions), MIL-C-55302 type coding and lower insertion forces than DIN, due to the increased density they offer.



STEP 1

SERIES CODE
Series 94
P = Pin Connector
3 Rows - .100" x .100" Grid

STEP 2

NO. OF CONTACT POSITIONS PER ROW
032, 040, 050.

STEP 3

CODING OPTIONS:
1 = Without Coding
2 = With Coding
(Coding Key Accessory Kit Ordered Separately)

STEP 4

CONTACT STYLE:
(For Pin Connector only)
Omit for C-Press Pin
1 = Discrete Pin

STEP 5

ROWS LOADED:
00 = No Contacts Installed
01 = Rows A, B & C
02 = Rows A & B
03 = Rows A & C
04 = Rows B & C

STEP 6

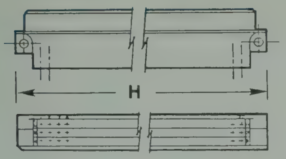
TAIL LENGTH (DIM. L)
Omit when no contacts are installed.

01 = 2 Level W/W (L = .512 [13.00]).	(K = .66 [16.8])
02 = 3 Level W/W (L = .669 [17.00]).	(K = .81 [20.6])
05 = Dip Solder (L = not applicable).	(K = .169 [4.30])
06 = Stub Tail (L = .025 [.064]).	(K = .169 [4.30])
08 = I.O. Connector (L = .355 [9.00]).	(K = .532 [13.51])
09 = Dip Solder (L = not applicable).	(K = .147 [3.70])

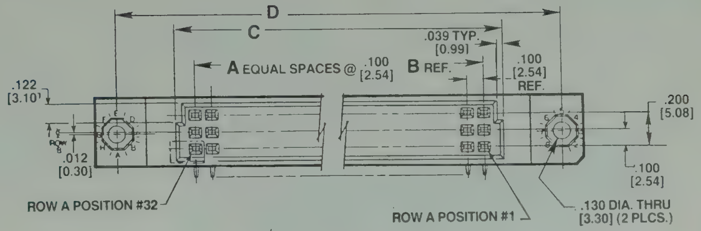
STEP 7

PLATING:
Omit when no contacts are installed.
Consult Sales for Plating Options.

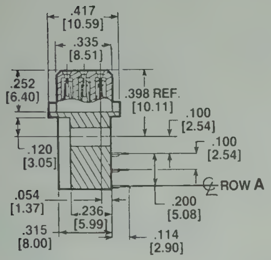
94P	* *	◑	□	◪	◺	△



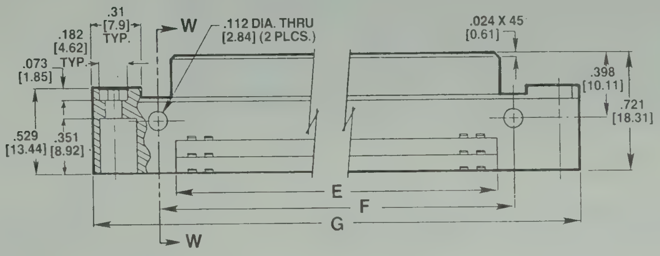
CAT. NO. 94S0321◪◺-△ SHOWN



CAT. NO. 94S0322◪◺-△ SHOWN



Section W-W



Dimensions

Catalog No.	A	B	C	D	E ±.010	F	G ±.008	H ±.006
94S050	49	4.900 [124.46]	5.142 [130.61]	5.850 [148.59]	5.095 [129.41]	5.300 [134.62]	6.120 [155.45]	5.496 [139.60]
94S040	39	3.900 [99.06]	4.142 [105.21]	4.850 [123.19]	4.095 [104.01]	4.300 [109.22]	5.120 [130.05]	4.496 [114.20]
94S032	31	3.100 [78.74]	3.342 [84.89]	4.050 [102.87]	3.295 [83.69]	3.500 [88.90]	4.320 [109.73]	3.696 [93.88]

STEP 1

SERIES CODE:
Series 94
S = Socket Connector
3 Rows - .100" x .100" Grid

STEP 2

NO. OF CONTACT POSITIONS PER ROW:
032, 040, 050

STEP 3

CODING OPTIONS:
1 = Without Coding
2 = With Coding
(Coding Key Accessory Kit Ordered Separately)

STEP 4

ROWS LOADED:
00 = No Contacts Installed
01 = Rows A, B & C
02 = Rows A & B
03 = Rows A & C
04 = Rows B & C

STEP 5

PLATING:
Omit when no contacts are installed.
Consult Sales for Plating Options.

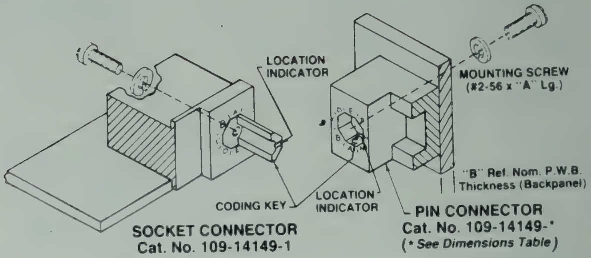
94S	* *	◑	◪	△

Coding Key Accessory Kit for Two-Piece, Printed Circuit Connector Assemblies

OPERATING PROCEDURE

Position location indicator of the coding key with the corresponding letter and/or number of both pin and socket connectors as shown.

Note location indicator is in "G" position. B Ref is backpanel thickness of .126" or .093" pin connector. Mounting screw is #2-56 x .312" or .250", depending on backpanel thickness.

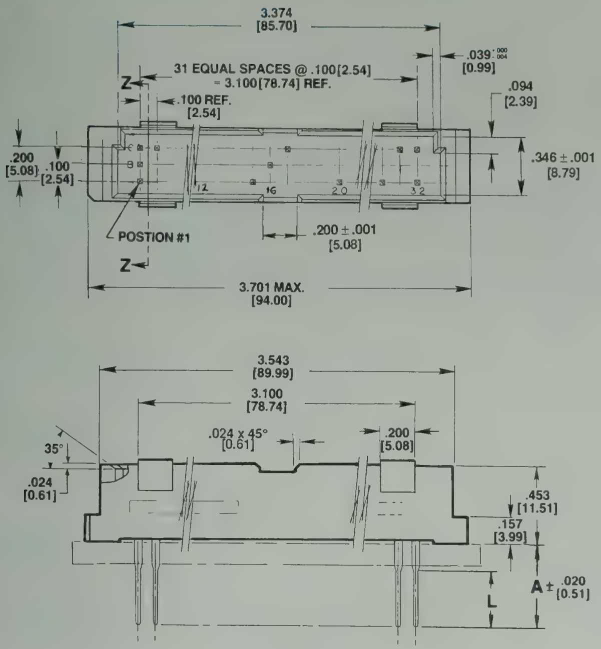


SERIES 95
Pre-Assembled Plug Connector

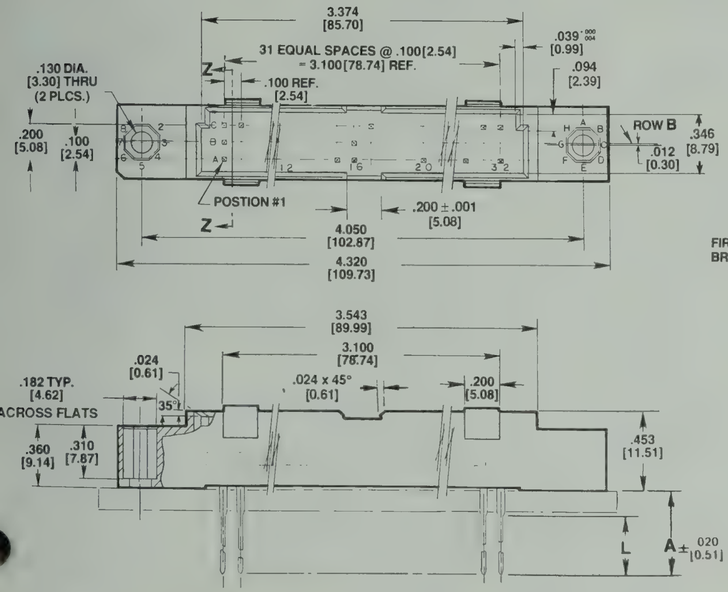
This pin connector is intermateable with "SYSTEM 12" type connectors. The SYSTEM 12 connectors were originally designed for ITT and differ from Inverted DIN connectors by enhancements to better control registration of multiple connectors on the same daughterboards. It provides more secure first make-last break electrical contacts and better daughterboard to motherboard registration. Series 95 is normally specified as components, combs of 32 contacts and a separate plastic housing. Winchester Electronics' Series 95 represents the industry's very first pre-assembled SYSTEM 12 Plug Connector.

STEP 1	**SERIES CODE** Series 95 Pin Connector 3 Rows - .100" x .100" Grid
STEP 2	**NO. OF CONTACT POSITIONS PER ROW** 032
STEP 3	**CODING OPTIONS:** 1 = Without Coding 2 = With Coding *(Coding Key Accessory Kit Ordered Separately)*
STEP 4	**CONFIGURATION:** 0 = Mark I Insulator (contacts to be ordered separately, consult sales) 1 = Mark II Insulator (with factory installed contacts)
STEP 5	**ROWS LOADED:** 0 = No Contacts Installed 1 = Rows A, B & C 2 = Rows A & B 3 = Rows A & C 4 = Rows B & C
STEP 6	**TAIL LENGTH (DIM. L) & F.M.L.B. OPTIONS:** Omit when no contacts are installed. 01 = 2 Level W/W (L = .512 [13.00]) (A = .711 [18.06]) 02 = 3 Level W/W (L = .669 [17.00]) (A = ..868 [22.05]) 06 = Stub Tail (L = .025 [.064]) (A = .169 [4.30])
STEP 7	**PLATING:** Omit when no contacts are installed. *Consult Sales for Plating Options.*

95P	* *	◑	□	◪	◺	△

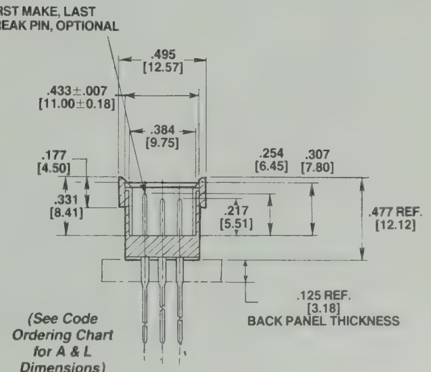


CAT. NO. 95P03211103-△ SHOWN

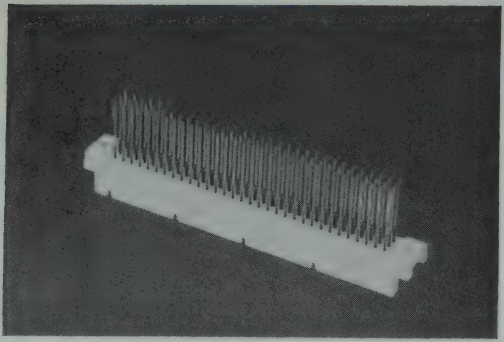


(See Code Ordering Chart for A & L Dimensions)

CAT. NO. 95P03221103-△ SHOWN



SECTION Z-Z



SERIES 97
.100" x .100" Grid

This plug connector was tooled exclusively for the American Marketplace as a compliant pin mate for L.M. Ericsson receptacle (Winchester Electronics 6023 right angle socket) connectors.

STEP 1

SERIES CODE:
Series 97
Pin Connector
3 Rows - .100" x .100" Grid

STEP 2

NO. OF CONTACT POSITIONS PER ROW:
032, 050

STEP 3

ROWS LOADED:
1 = Rows A, B & C
2 = Rows A & B
3 = Rows A & C
4 = Rows B & C

STEP 4

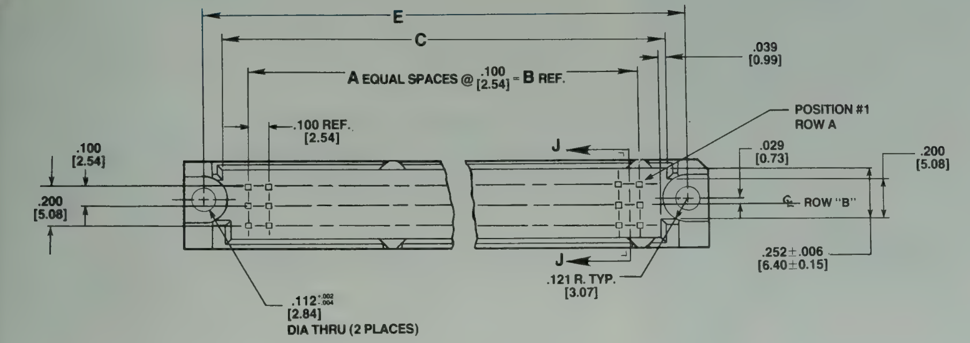
TAIL LENGTH:
Omit when no contacts are installed.
01 = 3 Level W/W

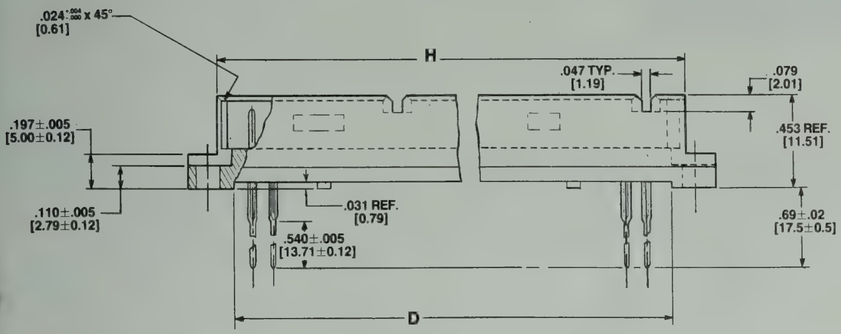
STEP 5

PLATING:
Omit when no contacts are installed.

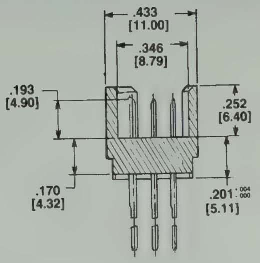
(Consult Sales for other options)

97P	* *	◑	◩	△

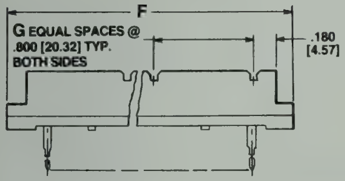


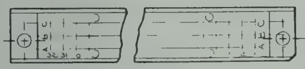


CATALOG NO. 97P032101- △ SHOWN



SECTION J-J

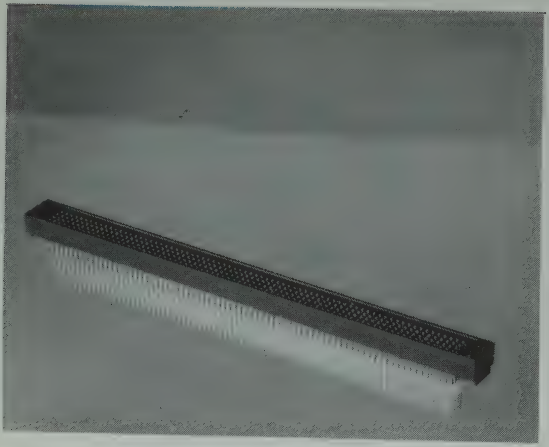




Dimensions

CATALOG NO.	A	B	C	D	E	F±.006	G	H±.006
97P032101-	31	3.100 [78.74]	3.358 [85.29]	3.31 [84.1]	3.542 [89.97]	3.734 [94.84]	3	3.461 [87.91]
97P050101-	49	4.900 [124.46]	5.158 [131.01]	5.11 [129.8]	5.342 [135.69]	5.534 [140.56]	5	5.261 [133.63]

98 Series



Series 98
40 I.O.'s Per Inch, Pre-Assembled

Higher densities than DIN can be achieved by this series. Series 98P represents 4 row connectors with compliant pin.

STEP 1 — **SERIES CODE:**
Series 98 Pin Connector
4 Rows
.100" x .100" Grid

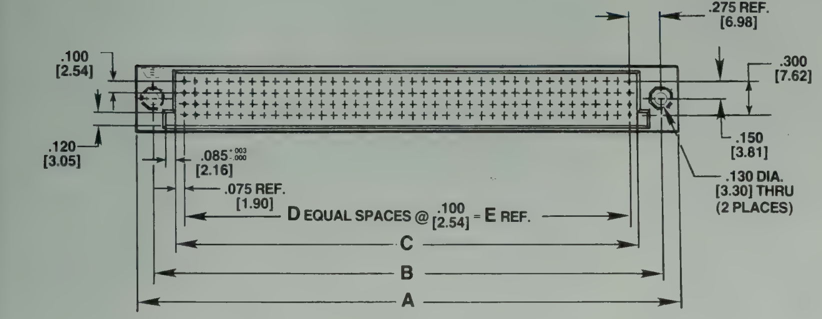
STEP 2 — **NO. OF CONTACT POSITIONS PER ROW:**
040, 050, 060, 075

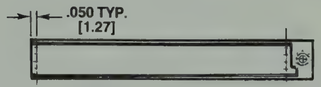
STEP 3 — **STYLES AVAILABLE:**
00 = Both Ends Closed
01 = Left Hand End Open
02 = Right Hand End Open
03 = Both Ends Open

STEP 4 — **PLATING:**
Consult Sales Dept. for Options

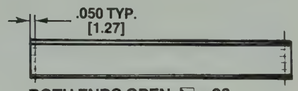
98P	★ ★	◪	△

STYLES AVAILABLE ◣

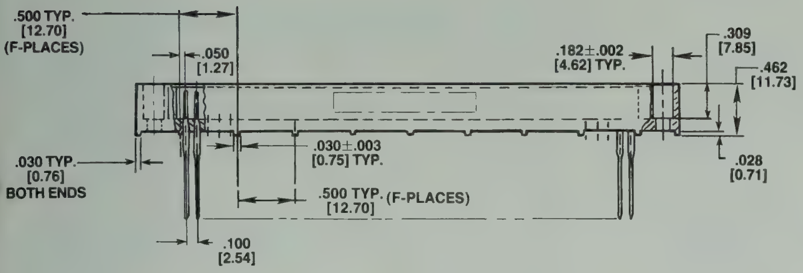


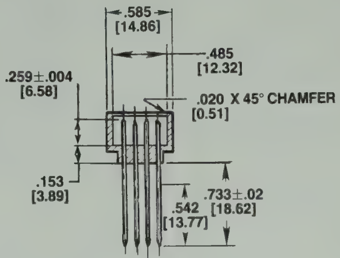


1 END OPEN
LEFT HAND END OPEN ◣ = 01 (SHOWN)
RIGHT HAND END OPEN ◣ = 02



BOTH ENDS OPEN ◣ = 03





98P040-00 △SHOWN

Dimensions

Catalog No.	No. of Pos.	A±.005	B±.005	C±.005	D	E±.005	F
98P040-	160	4.750 [120.65]	4.450 [113.03]	4.050 [102.87]	39	3.900 [99.06]	8
98P050-	200	5.750 [146.05]	5.450 [138.43]	5.050 [128.27]	49	4.900 [124.46]	10
98P060-	240	6.750 [171.45]	6.450 [163.83]	6.050 [153.67]	59	5.900 [149.86]	12
98P075-	300	8.250 [209.55]	7.950 [201.93]	7.550 [191.77]	74	7.400 [187.96]	15

Consult sales for availability.

Tooling

Series 6033

Description		Catalog No.
Insertion Tool	96S 6033	107-42597
	64S 6033	107-42596
	48S 6033	107-42595
Single Contact Insertion Tip		107-42336
Dracon Handle		107-42055
Single Contact Knock-Out Tip		107-42031
Dracon Handle		107-42055
Single Contact Broken Pin Removal Tool		107-42120
Dracon Handle		107-42055
Insulator Removal Tool	96S 6033 without coding device	712-6033-196
	64S 6033 without coding device	712-6033-164
	48S 6033 without coding device	712-6033-148
Dracon Handle Extension 8"		107-10921
Replacement Blades for Insertion Tool (16 Pos.)		107-42598

Series 6063 Special Contacts

Description	Catalog No.
Extraction Tool	701-6063-611
Replacement Tip	701-6063-014
Crimp Tool for COAX Contacts	703-5002-000
Crimp Dies for COAX Contacts —00, —12	703-5002-101
Crimp Dies for COAX Contacts —01, —13	703-5002-102
Crimp Tool for High Current (1.9 mm, 2.5 mm)	704-5002-000
Crimp Tool for High Current (2.5 mm, 6.0 mm)	705-5002-000

Series 6043

Description		Catalog No.
Single Contact Insertion Tip		107-42298
Dracon Handle		107-42055
Single Contact Knock-Out Tip		107-42031
Dracon Handle		107-42055
Single Contact Broken Pin Removal Tool		107-42120
Dracon Handle		107-42055
InsertionTool	96P6043	107-42190
	48P6043	107-42193
Dracon Handle Extension 8"		107-10921
Single Contact Pull-Out Tool		107-42533
Single Contact Extension Tool for First Make Last Break Contact		107-42698
Dracon Handle		107-42055

Series 6053 Bench Presses

Description	Catalog No.
Hand Press	107-1080
Air Press	107-42680

IDC Platens

Connector Series	Platen Cat. No.		Color Code	Ram Platen Cat. No.		Gage Blocks for use with Hand Press
	Hand Press	Air Press		Hand Press	Air Press	
VG/IDC Design B64	107-0177*	107-42413	Blue	107-0538	N/A	107-1089-8
VG/IDC Design C96	107-0537*	107-42414	Blue	107-0538	107-42415	107-1089-9

*Gage block included with these platens.

Series 91 Pin Connector

Description	Catalog No.
Insertion Tool 91P034	107-42214
91P050	107-42215
(WITH CODING) 91P068	107-42644
Single Contact Insertion Tip	107-43088
Dracon Handle	107-42055
Single Contact Knock-Out Tip	107-42031
Dracon Handle	107-42055
Single Contact Broken Pin Removal Tool	107-42120
Dracon Handle	107-42055
Insulator Removal Tool 91P034 (2¼″)	107-42211
91P050 (3½″)	107-42212
91P068 (4¾″)	107-42213
Insulator Seating Tool 91P034	107-42242
91P050	107-42241
Dracon Handle Extension 8″	107-10921
Single Contact Pull-Out Tool	107-42533
Single Contact Extension Tool for First Make Last Break Contact	107-42698
Dracon Handle	107-42055

Series 94, 97

Description	Catalog No.
Insertion Tool 94P032	107-42220
94P040	107-42219
94P050	107-42218
Single Contact Insertion Tip	107-42238
Dracon Handle	107-42055
Single Contact Knock-Out Tip	107-42031
Dracon Handle	107-42055
Single Contact Broken Pin Removal Tool	107-42120
Dracon Handle	107-42055
Insulator Removal Tool 94P050 (4¾″)	107-43080
94P040	107-43081
94P032 (3″)	107-43081
Insulator Seating Tool 94P050	107-42240
94P040	107-43083
94P032	107-43082
Dracon Handle Extension 8″	107-10921
Single Contact Pull-Out Tool	107-42533
Single Contact Extension Tool for First Make Last Break Contact	107-42698
Dracon Handle	107-42055

Series 95 Pin Connector

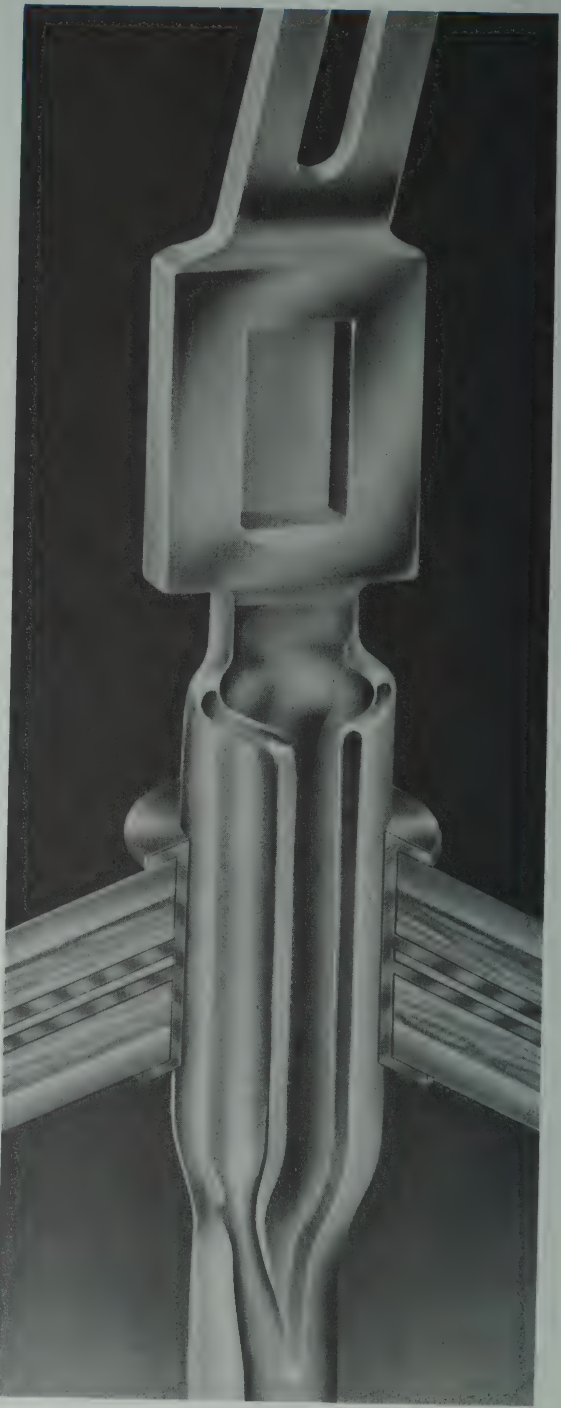
Description	Catalog No.
Insertion Tool 95P	107-42695
Single Contact Seating Tip	107-42697
Dracon Handle	107-42055
Single Contact Knock-Out Tip	107-42031
Dracon Handle	107-42055
Single Contact Broken Pin Removal Tool	107-42120
Dracon Handle	107-42055
Insulator Removal Tool 95P	107-42696
Insulator Seating Tool 95P	107-42689
Dracon Handle Extension 8″	107-10921
Single Contact Pull-Out Tool	107-42533
Single Contact Extension Tool for First Make Last Break Contact	107-42698
Dracon Handle	107-42055

Series 98 Pin Connector

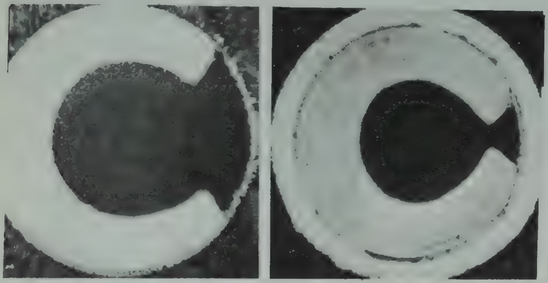
Description	Catalog No.
Insertion Tool 98P040	107-42892
98P050	107-42891
98P060	107-42890
98P075	107-42257
Single Contact Insertion Tool	107-42894
Single Contact Knock-Out Tip	107-42031
Dracon Handle	107-42055
Single Contact Broken Pin Removal Tool	107-42120
Dracon Handle	107-42055
Single Contact Pull-Out Tool	107-42533
Single Contact Extension Tool for First Make Last Break Contact	107-42698
Dracon Handle	107-42055

C-Press® "TRUE" Compliant Press-Fit Connectors

Winchester Electronics offers the leading edge in compliant press-fit pins and connectors. In both design and performance, the C-Press contact is the premium compliant pin.



Horizontal Cross Sections



Macro-photo cut-away view of actual, unretouched, compliant contact "C" section. At maximum and minimum diameter, plated through-hole contact pressure is distributed evenly along the inside circumference of the plated through-hole. The "C" section ensures a gas tight connection without damaging the hole or warping the board.

The advantage of the C-Press contact lies in its unique "C" shaped compliant section. Unlike two and four point press-fit systems, the crescent-shaped, tapered beam conforms naturally within the board to the shape of the plated through-hole. It expands or contracts to make contact around the circumference of the plated through-hole from .037″ to .043″ in diameter, exerting an equal normal force onto the entire surface of the hole, while forming a gas tight and extremely reliable electrical connection.

True Compliant Fit

Because the compliant section of the C-Press contact neither warps a board nor distorts the hole, it is an excellent choice for use in multilayered and Multiwire® boards. A major concern with "press-fit" contacts is the amount of axial and radial deformation imparted to the plated through-hole as a result of contact insertion. Because our C-Press contact offers a "True Compliant Fit," the concern for deformation damage to the plated through-holes and inner layers of a printed circuit board is eliminated.

Electronic designers no longer have to subject their expensive printed circuit boards to soldering or forcing a square peg into a round hole. Worries about delamination from soldering or damage by inserting square pegs disappear, and board warpage is significantly reduced.

® Multiwire is a Registered Trademark of Kollmorgen Corp.

Copyright 1986, Winchester Electronics Division of Litton Systems, Inc.

In and Out of the Board ... Without Solder.

Now, with the C-Press contact, you can insert a round pin into a round hole. This innovative engineering achievement (Patent #4017143) ensures a spring action pin to absorb potentially destructive energy while providing excellent electrical characteristics. C-Press contacts meet or exceed the performance specifications called for in MIL-STD-2166 and ANSI/IPC-D-422.

C-Press contacts have been approved and are being used in high volume by major manufacturers of computer, medical and telecommunications equipment. Because C-Press contacts are approved and used in 40 year life equipment, they clearly offer both dependability and performance.

The C-Press system provides you with additional benefits such as, rear plug-up, and the freedom to mount components on both sides of the board without costly masking or hand soldering operations.

Further benefits that save you time and money are the ability to remove and replace contacts through the insulator,as well as remove and replace an insulator without disturbing the contacts. C-Press contacts exhibit low insertion forces (40 lbs. max. per pin) and high retention forces (10 lbs. min. per pin), even after multiple replacements.

If damaged traces or the need to incorporate revisions in the existing connection system makes it necessary to alter interconnects at the circuit board level, the Winchester Electronics "Isolation Contact" is the answer. This contact can be installed into the existing PTH at the required position and effectively "Insulates" the contact from the circuitry at that location. Desired circuit alteration can then be completed by means of wire wrapping from point-to-point.

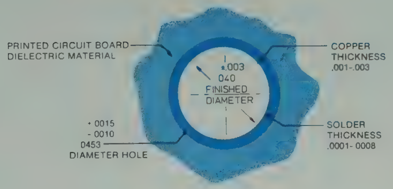
Tooling and Engineering Support

Winchester Electronics will work with and support the Backpanel Supplier of your choice. Many are familiar with our products and tooling. Connector and pin insertion equipment is available to set up an in-house, turn key operation. From a simple arbor press to a micro processor controlled hydraulic press with programmable X and Y axis, Winchester Electronics has the assembly equipment to fit your needs.

As new generations of semiconductor logic impose higher demands on production technology, the C-Press true compliant pin can help promote a smooth transition into the future. C-Press pre-assembled connectors will provide access to solutions which would otherwise be unattainable with more primitive compliant or solid pin designs.

The plated through requirement of the C-Press contact is easily achievable in production for printed circuit manufacturers. The C-Press hole (see diagram) is the same as called out in MIL-STD-2166.

HOLE SIZE REQUIREMENTS


PRINTED CIRCUIT BOARD DIELECTRIC MATERIAL
±.003
040
FINISHED DIAMETER
COPPER THICKNESS .001-.003
+ 0015
- 0010
0453 DIAMETER HOLE
SOLDER THICKNESS .0001- 0008

Standard Diameter P.T.H.

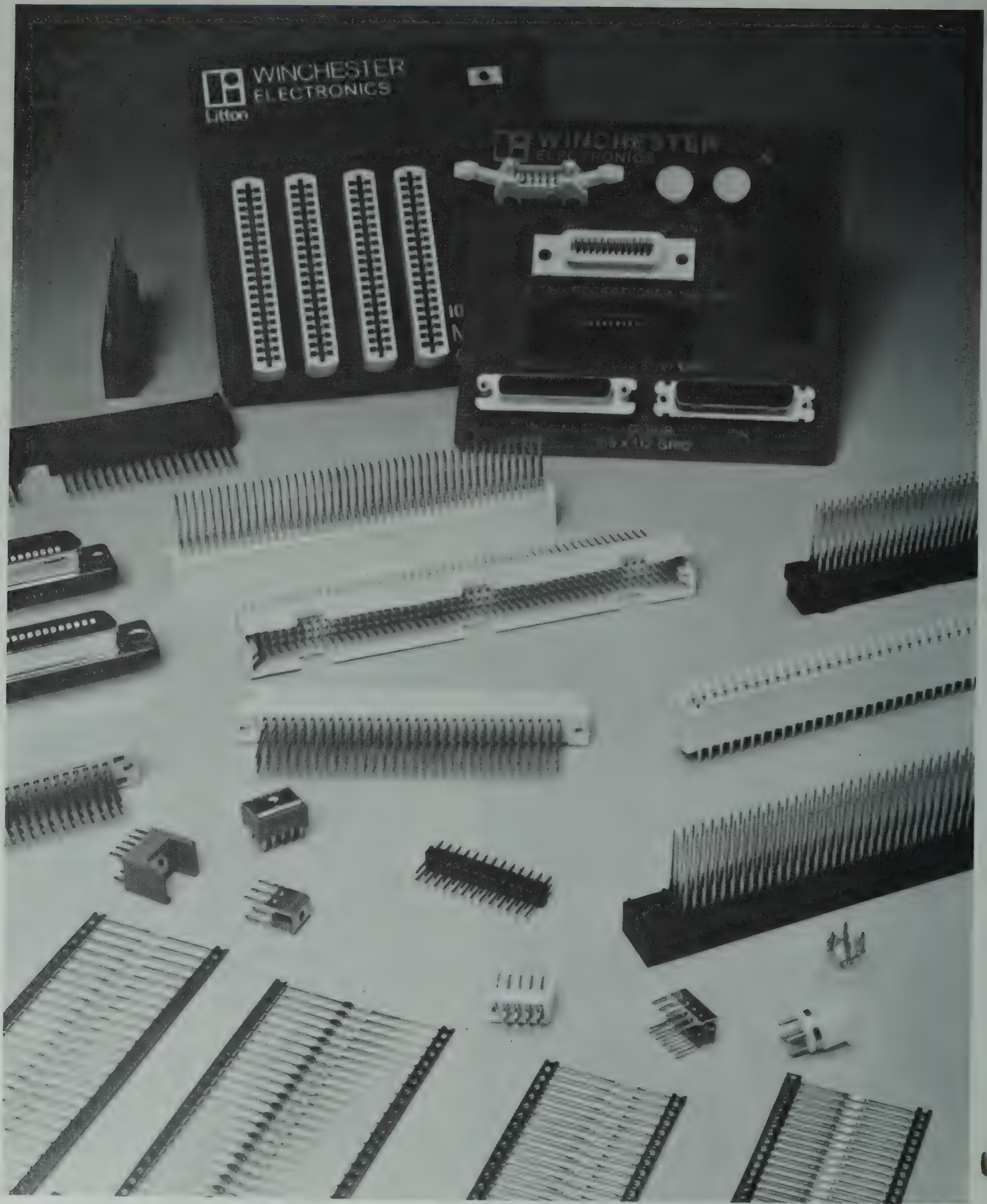
1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

For design flexibility across the board, the C-Press contact gives you everything you need. As you go through the pages of this catalog you will find: **Pre-assembled Edgecard Connectors,** a variety of **Signal Pins, D-Subminiatures, MIL-C-83503 Headers, C-TEL®, Power Terminals, Strip Headers, DIN Connectors,** and more. With such a broad line of connectors, solder and press-fit technologies no longer need to be mixed on your backplane, thereby reducing assembly costs and production time.

Over the years, billions of C-Press contacts have been successfully installed by communications, computer and medical equipment manufacturers, as well as backpanel suppliers worldwide.

One of the greatest benefits you get when you use a C-Press contact from Winchester Electronics is the engineering, manufacturing, field sales, customer service and marketing support that ensures performance and dependability.

C-Press® Compliant Contacts



C-Press® Compliant Contacts

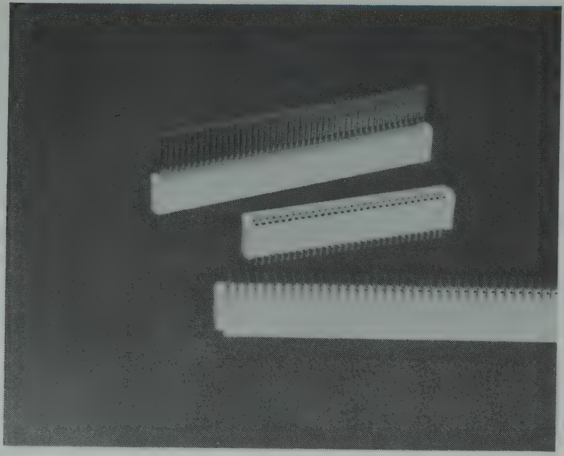
EDGECARD CONNECTORS

PAGE NO.	SERIES	DESCRIPTION	GRID	CONTACTS
2-3	Series MK/NKC	Edgecard Connectors	.100" x :200"	15 through 61
4	Series MJ/NJC	Edgecard Connectors	.100" x .200"	15 through 61
5	Series MK/NKD	Edgecard Connectors	.125" x .250"	15 through 61
6	Series MJ/NJD	Edgecard Connectors	.125" x .250"	15 through 61
7	Series NKA	Edgecard Connectors	.100" x .100"	15 through 61
8	Series NJA	Edgecard Connectors	.100" x .100"	15 through 61
9	Series MK/NKE	Edgecard Connectors	.156" x .200"	10 through 43
10	Series MJ/NJE	Edgecard Connectors	.156" x .200"	10 through 43
11	Series 276	Edgecard Connectors - High Profile	.125" x .125"	25,27,30,50
12	Series HEC	Edgecard Connectors - .610" High	.100" x .200"	15 through 61
13	Series HED	Edgecard Connectors - .610" High	.125" x .250"	15 through 61
14-15	Series MFB	Edgecard Connectors - Dual 18,36	.125" x .125"	18,36
16	Series MK/MJ	Switching Contact	.100"x.200" .156"x.200"	

I/O CONNECTORS

PAGE NO.	SERIES	DESCRIPTION	GRID	CONTACTS
17-19	Series 78/79	MIL-Spec Headers	.100" x .100"	10,14,16,20,26,34,40,50,60,64
20-23	Series 84/88	Telecommunications - Plug	.085" x .151" .085" x .160"	14,24,36,50
20-23	Series 84/88	Telecommunications - Receptacle	.085" x .169" .085" x .160"	14,24,36,50
24-26	Series 184/188	Shielded Telecommunications - Plug	.085" x .160"	24,36,50
24-26	Series 184/188	Shielded Telecommunications - Receptacle	.085" x .160"	24,36,50
27-29	Series 89	D-Sub Pin & Socket Connectors	.109" x .112"	9,15,25,37
30-31	Series 189	D-Sub Shielded Connectors	.109" x .112"	9,15,25,37
32		C-Press Compliant Technical Data	N/A	
33-35	Series FM,FA,FC	Signal Pins		
33-35	WB,FP	Feed-On/Feed-Thru/Flat-Top	.100"CL .125"CL .150"CL	10-100 pos. comb, or 30,000/reel 10-100 pos. comb, or 30,000/reel 10-100 pos. comb, or 30,000/reel
36	Series 102	Isolation Contacts for Edgecard	.100" x .100" .100" x .200" .125" x .125" .125" x .250" .156" x .200"	One Per One Per One Per One Per One per
37	Series 103	Isolation Contacts for Signal Pins	Loose, One per	One per
38	Series 130	Strip Header	.100" x .100"	5 through 50
39	Series 132	Header Connectors	.100" x .100"	9,26
40	Series 122,121	Pin Cup Header/Two Position Jumper	.100" x .100"	122 (10 pos.),121 (2 pos.)
41-42	Series 121	Coaxial Connectors (50 & 75 Ohm)		Five per
43	Series 121	BNC Coax Connector		Five per
44-45	Series 121	Power Terminals (6 Pin)	.125" x .250"	6 pin
44-45	Series 121	Power Terminals (10 Pin)	.100" x .300"	10 pin
46-49	Tools & Machinery			

C-Press Edgecard Connectors



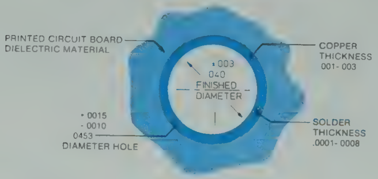
Winchester Electronics' pre-assembled Edgecard connectors,with C-Press contacts, combine the reliability of a compliant contact and the advantage of easy assembly to the board.

Pre-assembled units are placed into the printed circuit board and the contacts are mass terminated, resulting in shorter manufacturing times and cost reductions.

Design features, such as removing housings and contacts (which are removed and replaced through the insulator) assure added flexibility in backplane packaging. Selective plating puts gold on the contact only where it is needed - an attractive, cost effective alternative for backplanes.

NOTE: For all Edgecard installation and repair tooling, refer to Tool Section.

HOLE SIZE REQUIREMENTS



Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

Specifications

Series MK, NK, MJ, NJ, HE, and 276
ELECTRICAL CHARACTERISTICS:

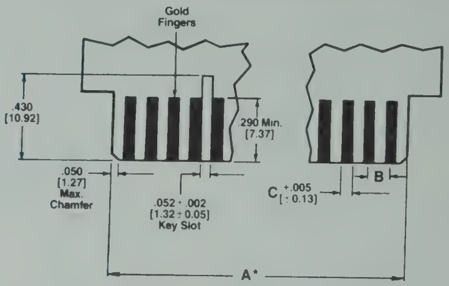
INSULATORS

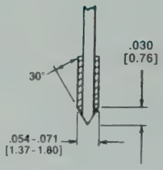
Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O *Color:* Natural
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.
Daughter Card:	.054" to .071"

CONTACTS

Type:	See Code Ordering Charts
Material:	Copper Alloy 725
Plating:	Selective Plating. See Code Ordering Charts
Current Rating:	1 amp at 70° C. 3 amps at 20° C.
Contact Resistance:	11 Milliohms (max.) Contact to Daughter Card 2 Milliohms (max.) C-Section to P.T.H.
Insertion Force (Compliant Area):	40 lbs. or less, individual pin.
Retention Force (Compliant Area):	10 lbs. minimum, individual pin.

RECOMMENDED DAUGHTER CARD LAYOUT FOR ALL EDGECARD CONNECTORS





Dimensions

Centerline Spacing	B	C
.100" x .100"	.100 [2.54]	.070 [1.78]
.100" x .200"	.100 [2.54]	.070 [1.78]
.125" x .125"	.125 [3.18]	.080 [2.03]
.125" x .250"	.125 [3.18]	.080 [2.03]
.156" x .200"	.156 [3.96]	.080 [2.03]

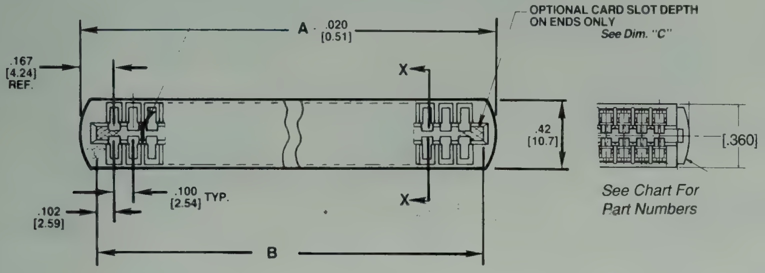
*A Max. = Min. Card Slot -.001 [-0.03]
A Min. = Min. Card Slot -.011 [-0.28]

NOTE: Finger pattern to be centered on daughter card. (Each finger can deviate .003 [0.08] from true position.)

Edgecard .100" x .200" Grid

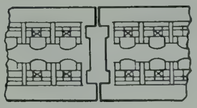
Series MK/NK**C

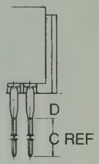
.032 [.81] thick polarization key centrally located between contacts. Shown for reference only. Must be ordered separately under Cat. No. 109-101665.

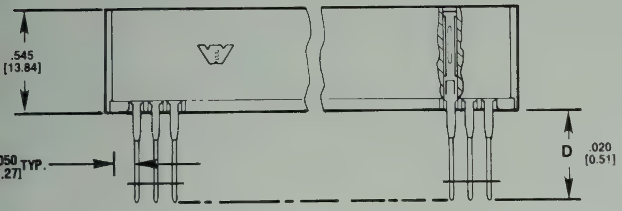


See Chart For Part Numbers

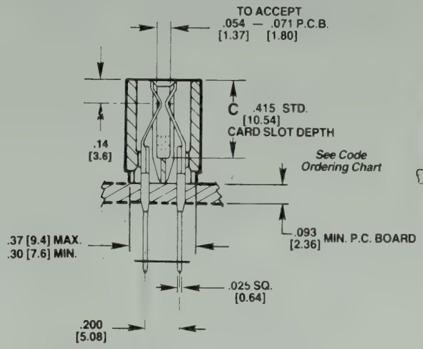
MKS/NKS: For sizes longer than Dual 61, two connectors are end stacked with contact omitted at butted section. (Using simple insertion tools, insert missing contact after both assemblies are press-fitted to backplane.)



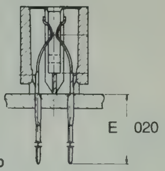




CAT. NO. MK **C1 ◐ △ SHOWN


TO ACCEPT .054 — .071 P.C.B. [1.37] [1.80]
C .415 STD. [10.54] CARD SLOT DEPTH
See Code Ordering Chart
.14 [3.6]
.093 [2.36] MIN. P.C. BOARD
.37 [9.4] MAX.
.30 [7.6] MIN.
.025 SQ. [0.64]
.200 [5.08]

SECTION X-X



CATALOG Nº	A	B	C	D	E
NK30C111924620	3.234	29	.025	.189	.222
NK15C111924620	1.734	14	.025	.189	.222
NK10C121924620	1.234	9	.316	.480	.513
NK43C111924620	4.534	42	.025	.189	.222
NK40C111924620	4.234	39	.025	.189	.222
NK37C111924620	3.934	36	.025	.189	.222
NK32C111924620	3.434	31	.025	.189	.222
NK30C131924620	3.234	29	.411	.575	.608
NK15C131924620	1.734	14	.411	.575	.608

EXAMPLE: Connector with no open end, 50 bifurcated contact pairs, .100" x .200" grid, .415" card slot depth, a .702" tail and standard plating, specify
Cat. No. MK50C14-192.

Dimensions

Catalog No.	A ± .020 [0.51]	B ± .007 [.178]
MK/NK15C	1.734 [44.04]	1.604 [40.74]
MK/NK61C	6.334 [160.88]	6.204 [157.58]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .100" [2.54].

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6	7
MK/NK	◪	**	C	◺	◐	-△

Step 1

Insert Series Code:
Series MK
(bifurcated contacts)
Series NK
(non-bifurcated contacts)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
15 through 61
(See Dimensions Table)

Step 4

Grid Spacing:
C = .100" x .200"

Step 5

Card Slot Depth (C-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

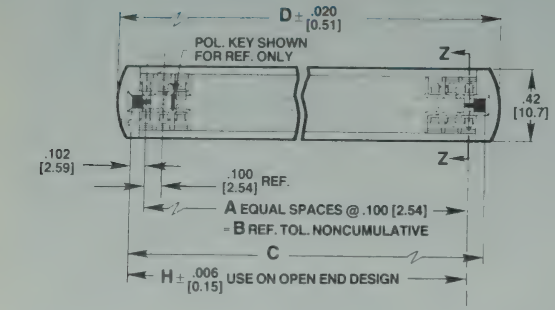
Tail Length (D-Dim.):
1 = .190" [4.83]
2 = .485" [12.32]
3 = .580" [14.73]
4 = .710" [18.03]
6 = .375" [9.53]

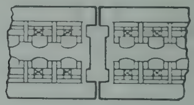
Step 7

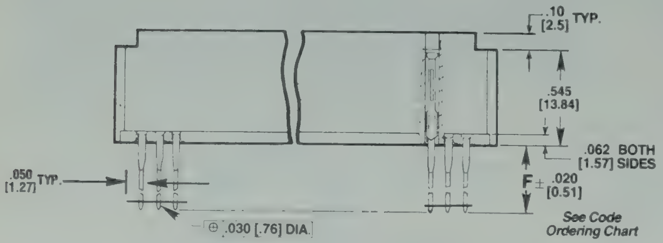
Plating (Selective):
192 - .000030" gold over .000040" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000040" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

MJ/NJ**C Series

MJS/NJS: For sizes longer than Dual 61, two connectors are end stacked with contact omitted at butted section. (Using simple insertion tools, insert missing contact after both assemblies are press-fitted to backplane.)

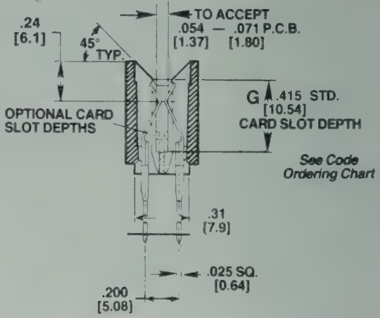

D ± .020 [0.51]
POL. KEY SHOWN FOR REF. ONLY
Z
Z
.42 [10.7]
.102 [2.59]
.100 [2.54] REF.
A EQUAL SPACES @ .100 [2.54]
= B REF. TOL. NONCUMULATIVE
C
H ± .006 [0.15] USE ON OPEN END DESIGN





CAT. NO. MJ **C1 ◐△ SHOWN

SECTION Z-Z


TO ACCEPT .054 — .071 P.C.B. [1.37] [1.80]
.24 [6.1]
45° TYP.
OPTIONAL CARD SLOT DEPTHS
G .415 STD. [10.54] CARD SLOT DEPTH
See Code Ordering Chart
.31 [7.9]
.025 SQ. [0.64]
.200 [5.08]

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6	7
MJ/NJ	◪	**	C	◺	◐	-△

Step 1

Insert Series Code:
Series MJ
(bifurcated contacts)
Series NJ
(non-bifurcated contacts)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
15 through 61
(See Dimensions Table)
Consult Sales for sizes tooled.

Step 4

Grid Spacing:
C = .100" x .200"

Step 5

Card Slot Depth (G-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

Tail Length (F-Dim.):
1 = .190" [4.83]
2 = .485" [12.32]
3 = .580" [14.73]
4 = .710" [18.03]
6 = .375" [9.53]

Step 7

Plating (Selective):
192 - .000030" gold over .000050" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000050" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

EXAMPLE: Connector with no open end, 50 bifurcated contact pairs, .100" x .200" grid, .415" card slot depth, a .702" tail and standard plating, specify
Cat. No. MJ50C14-192.

Dimensions

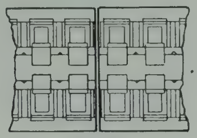
Catalog No.	A	B Ref.	C ± .007 [.178]	D ± .020 [0.51]	H ± .006 [0.15]
MJ/NJ15C	14	1.400 [35.56]	1.604 [40.74]	1.734 [44.04]	1.502 [38.15]
MJ/NJ61C	60	6.000 [152.40]	6.204 [157.58]	6.334 [160.88]	6.102 [154.99]

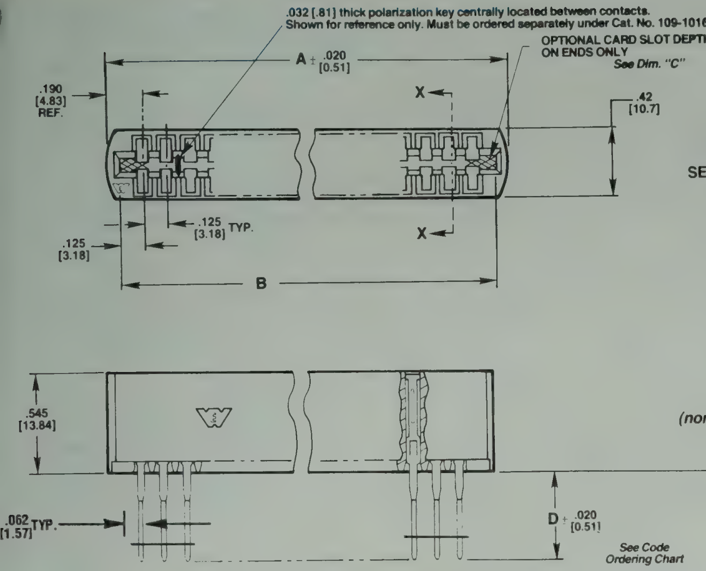
To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .100" [2.54].

Edgecard .125" x .250" Grid

Series MK/NK**D

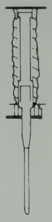
MKS/NKS: For sizes longer than Dual 61, two connectors are end stacked with ½ molding barrier butting together. (No loss of contact location.)



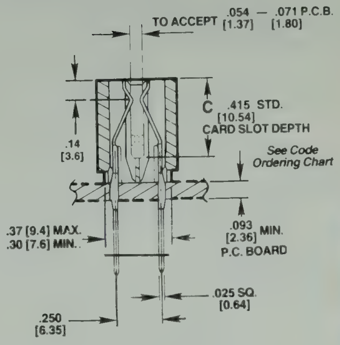

.032 [.81] thick polarization key centrally located between contacts. Shown for reference only. Must be ordered separately under Cat. No. 109-101665.
OPTIONAL CARD SLOT DEPTH ON ENDS ONLY
See Dim. "C"
A ± .020 [0.51]
.190 [4.83] REF.
X
.42 [10.7]
.125 [3.18] TYP.
X
.125 [3.18]
B
.545 [13.84]
.062 [1.57] TYP.
D ± .020 [0.51]
See Code Ordering Chart

CAT. NO. MK **D1◐△ SHOWN

SERIES NK



(non-bifurcated)



SECTION X-X

Ordering Chart: Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6	7
MK/NK	◪	**	D	◺	◐	-△

Step 1

Insert Series Code:
Series MK
(bifurcated contacts)
Series NK
(non-bifurcated contacts)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
15 through 61
(See Dimensions Table)

Step 4

Grid Spacing:
D = .125" x .250"

Step 5

Card Slot Depth (C-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

Tail Length (D-Dim.):
1 = .190" [4.83]
2 = .485" [12.32]
3 = .580" [14.73]
4 = .710" [18.03]

Step 7

Plating (Selective):
192 - .000030" gold over .000040" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000040" nickel overall in contact area and gold flash in C-section and tail

(Consult sales for additional plating options)

EXAMPLE: Connector with no open end, 50 bifurcated contact pairs, .125" x .250" grid, .415" card slot depth, a .702" tail and standard plating, specify
Cat. No. MK50D14-192.

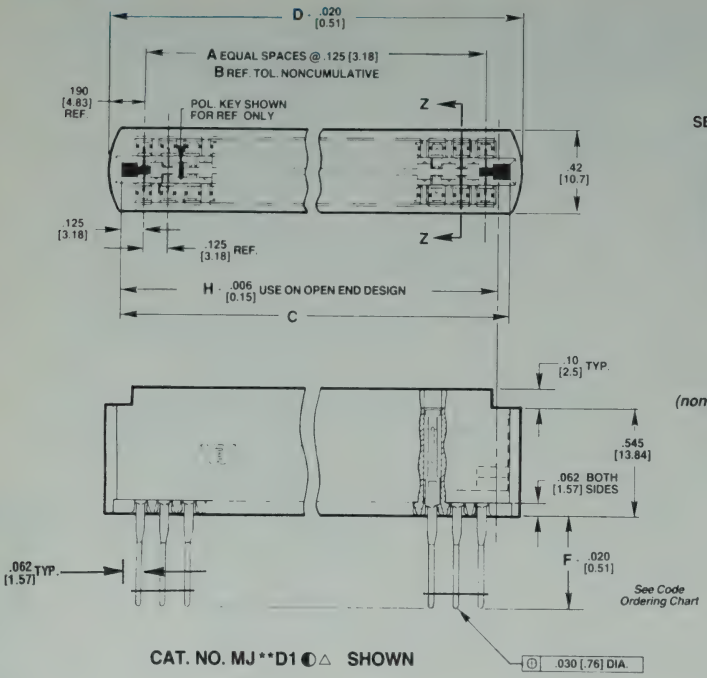
Dimensions

Catalog No.	A ± .020 [0.51]	B ± .007 [.178]
MK/NK15D	2.130 [54.10]	2.000 [50.80]
MK/NK61D	7.880 [200.15]	7.750 [196.85]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .125" [3.18].

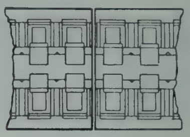
MJ/NJ**D Series

.125" x .250" Grid Edgecard

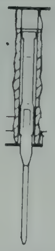


CAT. NO. MJ **D1 ◐△ SHOWN

MJS/NJS: For sizes longer than Dual 61, two connectors are end stacked with ½ molding barrier butting together. (No loss of contact location.)

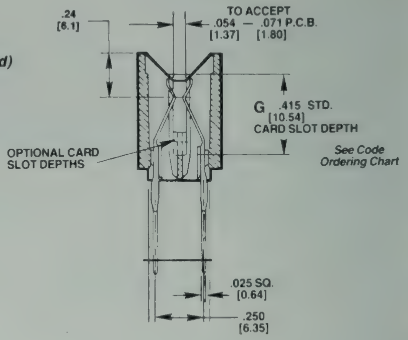


SERIES NJ



(non-bifurcated)

SECTION Z-Z


.24 [6.1]
TO ACCEPT .054 — .071 P.C.B. [1.37] [1.80]
G ± .415 STD. [10.54] CARD SLOT DEPTH
See Code Ordering Chart
OPTIONAL CARD SLOT DEPTHS
.025 SQ. [0.64]
.250 [6.35]

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6	7
MJ/NJ	◪	**	D	◺	◐	-△

Step 1

Insert Series Code:
Series MJ
(bifurcated contacts)
Series NJ
(non-bifurcated contacts)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
15 through 61
(See Dimensions Table)
Consult Sales for sizes tooled.

Grid Spacing:
D = .125" x .250"

Step 5

Card Slot Depth (G-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

Tail Length (F-Dim.):
1 = .190" [4.83]
2 = .485" [12.32]
3 = .580" [14.73]
4 = .710" [18.03]

Step 7

Plating (Selective):
192 - .000030" gold over .000050" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000050" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

EXAMPLE: Connector with no open end, 50 bifurcated contact pairs, .125" x .250" grid, .415" card slot depth, a .702" tail and standard plating, specify
Cat. No. MJ50D14-192.

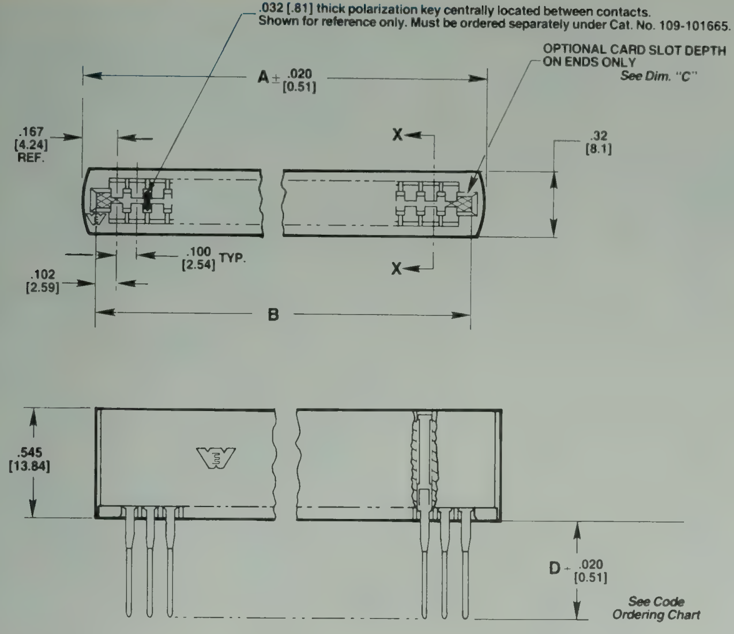
Dimensions

Catalog No.	A	B Ref.	C ± .007 [.178]	D ± .020 [0.51]	H ± .006 [0.15]
MJ/NJ15D	14	1.750 [44.45]	2.000 [50.80]	2.130 [54.10]	1.935 [49.15]
MJ/NJ61D	60	7.500 [190.50]	7.750 [196.85]	7.880 [200.15]	7.685 [195.20]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .125" [3.18]

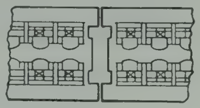
Edgecard .100" x .100" Grid

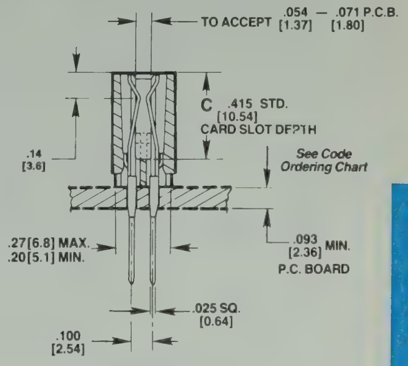
Series NK**A


.032 [.81] thick polarization key centrally located between contacts.
Shown for reference only. Must be ordered separately under Cat. No. 109-101665.
OPTIONAL CARD SLOT DEPTH ON ENDS ONLY
See Dim. "C"
A ± .020 [0.51]
.167 [4.24] REF.
X
.32 [8.1]
D
.100 [2.54] TYP.
.102 [2.59]
X
B
.545 [13.84]
D ± .020 [0.51]
See Code Ordering Chart

CAT. NO. NK**A1 ◐△ SHOWN

NK/NKS: For sizes longer than Dual 61, two connectors are end stacked with contact omitted at butted section. (Using simple insertion tools, insert missing contact after both assemblies are press-fitted to backplane.)





SECTION X-X

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6	7
NK	◩	**	A	◺	◐	-△

Step 1

Series Code:
Series NK
(Continuous Card Collector)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
15 through 61
(See Dimensions Table)

Step 4

Grid Spacing:
A = .100" x .100"

Step 5

Card Slot Depth (C-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

Tail Length (D-Dim.):
1 = .190" [4.83]
4 = .710" [18.03]
7 = .300" [7.62]

Step 7

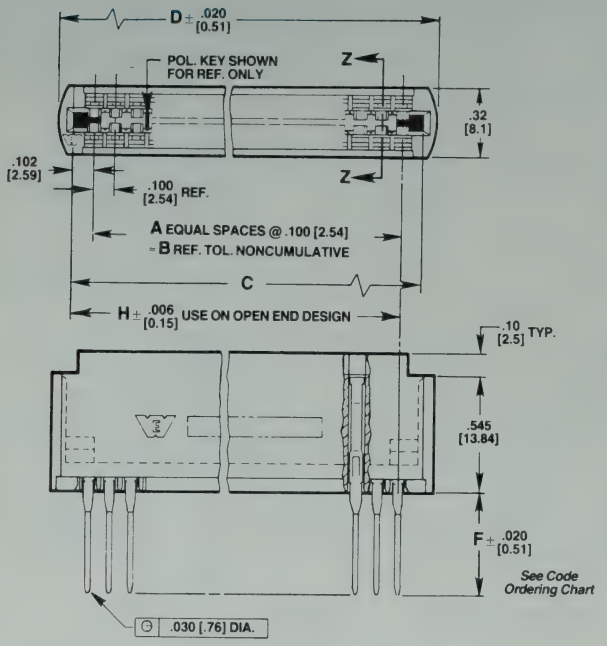
Plating (Selective):
192 - .000030" gold over .000040" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000040" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

EXAMPLE: Connector with no open end, 50 contact pairs, .100" x .100" grid, .415" card slot depth, a .702" tail and standard plating, specify **Cat. No. NK50A14-192.**

Dimensions

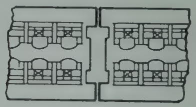
Catalog No.	A ± .020 [0.51]	B ± .007 [.178]
NK15A	1.734 [44.04]	1.604 [40.74]
NK61A	6.334 [160.88]	6.204 [157.58]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .100" [2.54].

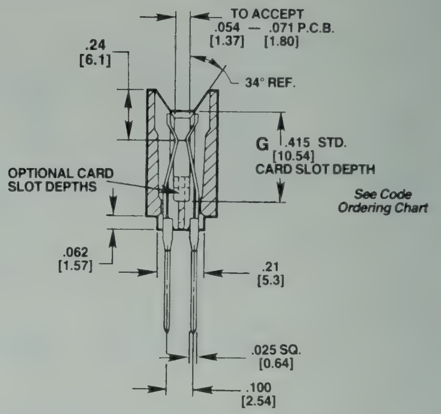


CAT. NO. NJ**A1 ◐△ SHOWN

NJ/NJS: For sizes longer than Dual 61, two connectors are end stacked with contact omitted at butted section. (Using simple insertion tools, insert missing contact after both assemblies are press-fitted to backplane.)



SECTION Z-Z


TO ACCEPT .054 — .071 P.C.B. [1.37] [1.80]
.24 [6.1]
34° REF.
G .415 STD. [10.54] CARD SLOT DEPTH
See Code Ordering Chart
OPTIONAL CARD SLOT DEPTHS
.062 [1.57]
.21 [5.3]
.025 SQ. [0.64]
.100 [2.54]

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6	7
	NJ	◪	**	A	◺	◐	-△

Step 1

Series Code:
Series NJ
(Continuous Card Collector)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
15 through 61
(See Dimensions Table)
Consult Sales for sizes tooled.

Step 4

Grid Spacing:
A = .100" x .100"

Step 5

Card Slot Depth (G-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

Tail Length (F-Dim.):
1 = .190" [4.83]
4 = .710" [18.03]
7 = .300" [7.62]

Step 7

Plating (Selective):
192 - .000030" gold over .000050" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000050" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

EXAMPLE: Connector with no open end, 50 contact pairs, .100" x .100" grid, .415" card slot depth, a .702" tail and standard plating, specify **Cat. No. NJ50A14-192.**

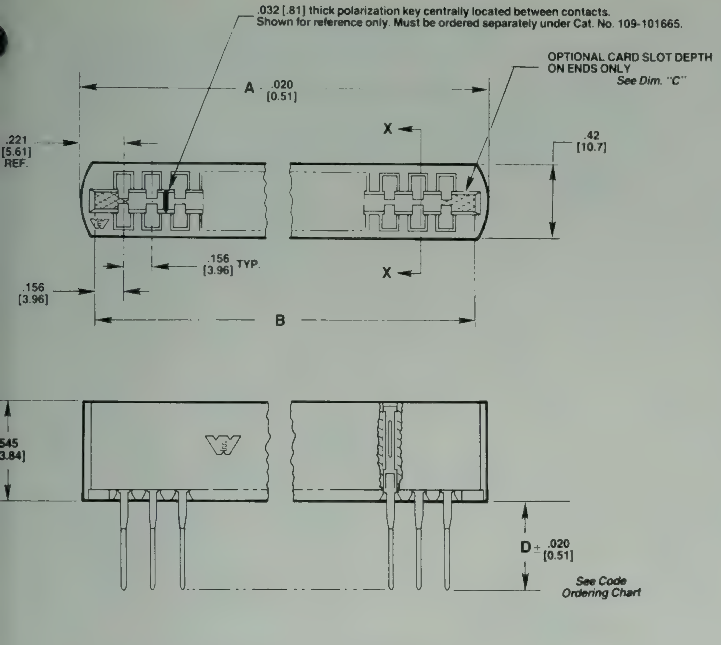
Dimensions

Catalog No.	A	B Ref.	C ± .007 [.178]	D ± .020 [0.51]	H ± .006 [0.15]
NJ15A	14	1.400 [35.56]	1.604 [40.74]	1.734 [44.04]	1.502 [38.15]
NJ61A	60	6.000 [152.40]	6.204 [157.58]	6.334 [160.88]	6.102 [154.99]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .100" [2.54].

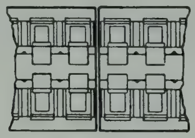
Edgecard .156" x .200" Grid

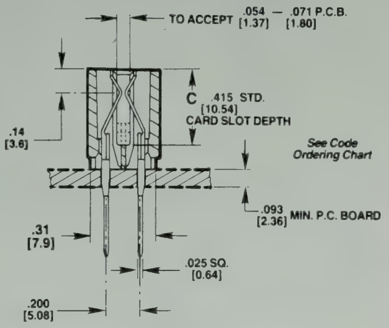
Series MK/NK**E



CAT. NO. MK **E1 ◐△ SHOWN

MKS/NKS: For sizes longer than Dual 61, two connectors are end stacked with ½ molding barrier butting together. (No loss of contact location.)

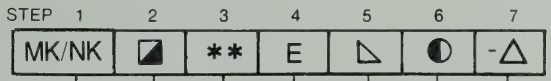



TO ACCEPT .054 [1.37] — .071 [1.80] P.C.B.
C .415 STD. [10.54] CARD SLOT DEPTH
See Code Ordering Chart
.14 [3.6]
.093 [2.36] MIN. P.C. BOARD
.31 [7.9]
.025 SQ. [0.64]
.200 [5.08]

SECTION X-X

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1

Insert Series Code:
Series MK
(bifurcated contacts)
Series NK
(non-bifurcated
contacts)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
10 through 43
(See Dimensions Table)

Step 4

Grid Spacing:
E = .156" x .200"

Step 5

Card Slot Depth (C-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

Tail Length (D-Dim.):
1 = .190" [4.83]
2 = .485" [12.32]
4 = .710" [18.03]

Step 7

Plating (Selective):
192 - .000030" gold over .000040" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000040" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

EXAMPLE: Connector with no open end, 43 bifurcated contact pairs, .156" x .200" grid, .415" card slot depth, a .702" tail and standard plating, specify
Cat. No. MK43E14-192.

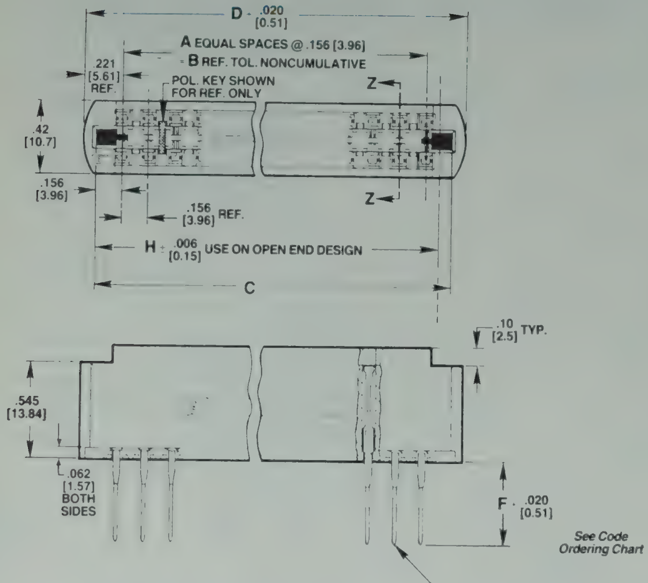
Dimensions

Catalog No.	A ± .020 [0.51]	B ± .007 [.178]
MK/NK10E	1.846 [46.88]	1.716 [43.58]
MK/NK43E	6.994 [177.65]	6.864 [174.35]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .156" [3.96].

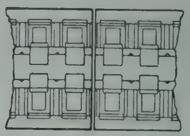
MJ/NJ**E Series

.156" x .200" Grid Edgecard

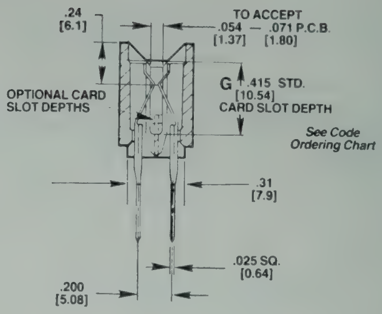


CAT. NO. MJE1 ◐ △ SHOWN**

MJS/NJS: For sizes longer than Dual 61, two connectors are end stacked with ½ molding barrier butting together. (No loss of contact location.)



SECTION Z-Z



.24 [6.1]
TO ACCEPT .054 — .071 P.C.B. [1.37] [1.80]
OPTIONAL CARD SLOT DEPTHS
G .415 STD. [10.54] CARD SLOT DEPTH
See Code Ordering Chart
.31 [7.9]
.025 SQ. [0.64]
.200 [5.08]

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6	7
	MJ/NJ	◪	**	E	◺	◐	-△

Step 1

Insert Series Code:
Series MJ
(bifurcated contacts)
Series NJ
(non-bifurcated
contacts)

Step 2

End Configuration:
Blank = No Open End
S = One Open End

Step 3

No. of Contact Pairs:
10 through 43
(See Dimensions Table)

Step 4

Grid Spacing:
E = .156" x .200"

Step 5

Card Slot Depth (G-Dim.):
1 = .415" [10.54] Standard
2 = .350" [8.89] [Optional On
3 = .300" [7.62] [Shaded Ends Only

Step 6

Tail Length (F-Dim.):
1 = .190" [4.83]
2 = .485" [12.32]
4 = .710" [18.03]

Step 7

Plating (Selective):
192 - .000030" gold over .000050" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000050" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

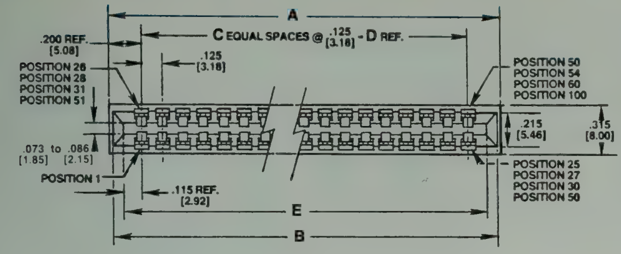
EXAMPLE: Connector with no open end, 43 bifurcated contact pairs, .156" x .200" grid, .415" card slot depth, a .702" tail and standard plating, specify
Cat. No. MJ43E14-192.

Dimensions

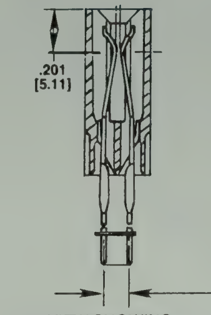
Catalog No.	A	B Ref.	C ± .007 [.178]	D ± .020 [0.51]	H ± .006 [0.15]
MJ/NJ10E	9	1.404 [35.66]	1.716 [43.59]	1.846 [46.89]	1.636 [41.55]
MJ/NJ43E	42	6.552 [166.42]	6.864 [174.34]	6.994 [177.64]	6.784 [172.31]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .156" [3.96].

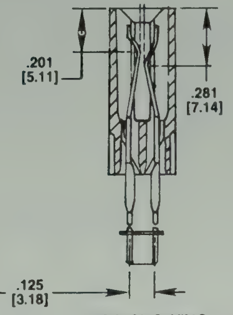
High Profile Edgecard .125" x .125" Grid **Series 276**



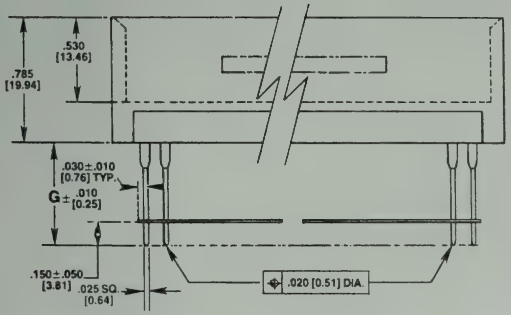
This .125" x .125" grid Edgecard connector features early make/late make and shorting contact options. It also has a mylar strip on the contact tails for improved tip alignment to the printed circuit board.

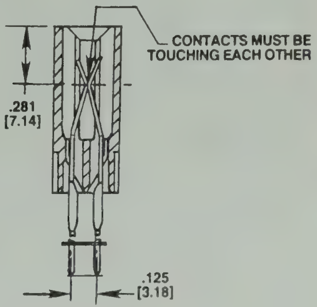


VIEW SHOWING
EARLY MAKE CONTACTS



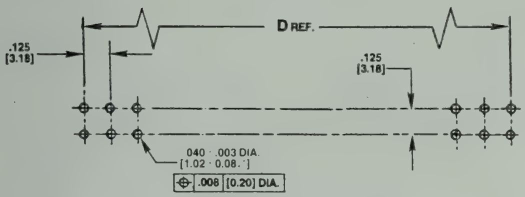
VIEW SHOWING
EARLY/LATE MAKE CONTACTS





VIEW SHOWING
SHORTING CONTACTS

RECOMMENDED P.C. BOARD
HOLE PATTERN



Dimensions

Catalog No.	A	B	C	D REF.	E ± .007 [.178]	G
276-25-	3.400 [86.36]	3.360 [85.34]	24	3.000 [76.20]	3.230 [82.04]	.634 [16.10]
276-27-	3.650 [92.71]	3.610 [91.69]	26	3.250 [82.55]	3.480 [88.39]	*
276-30-	4.025 [102.24]	3.985 [101.22]	29	3.625 [92.08]	3.855 [97.92]	.634 [16.10]
276-50-	6.525 [165.74]	6.485 [164.72]	49	6.125 [155.58]	6.355 [161.42]	.634 [16.10]

* .230 [5.84] .425 [10.80] or .634 [16.10] (depending on contact position)

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1 2 3

276 ** ◪

Step 1

Series Code:
Series 276
.125" x .125" Grid

Step 2 No. Contact Pairs	Step 3 Connector Style
25	23,24,30
27	06,07,09,10,11,12 19,20,21,22,25,35, 36,37,38
30	14,15,16,17,26,29
50	31

(Consult Factory for Configurations)

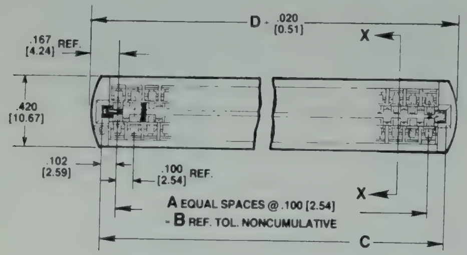
HEC/HED Series

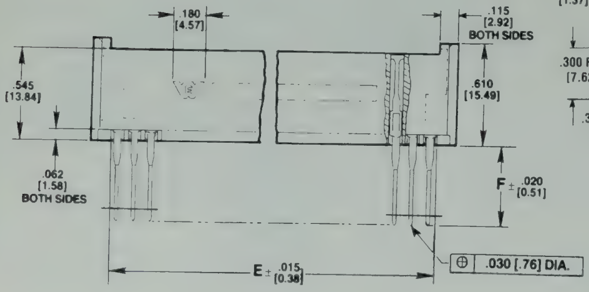
HEC/HED Series Edgecard connectors are .610" high on each end to give you a compliant pin connector that replaces standard card edge connectors.

Dimensions

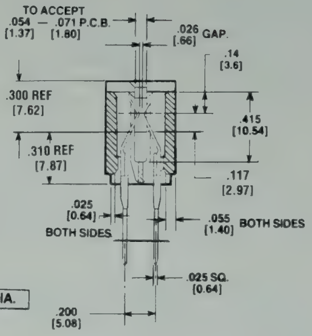
Catalog No.	A	B Ref.	C ± .007 [.178]	D± .020 [0.51]	E± .015 [0.38]
HE15C	14	1.400 [35.56]	1.604 [40.74]	1.734 [44.04]	1.480 [37.59]
HE61C	60	6.000 [152.40]	6.204 [157.58]	6.334 [160.88]	6.080 [154.43]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .100" [2.54].





CAT. NO. HE**C ◺△ -4364 SHOWN



SECTION X-X

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6		6
HE	**	C/D	◺	-△	4494/4364	OR ...	4364
					HE50D		HE50C

Step 1

Insert Series Code:
Series HE

Step 2

No. of Contact Pairs:
15 through 61
(See Dimensions Table)

Step 3

Grid Spacing:
C = .100" x .200"
D = .125" x .250"

Step 4

Tail Length (F-Dim.):
1 = .190" [4.83]
2 = .485" [12.32]
3 = .580" [14.73]
4 = .710" [18.03]

Step 5

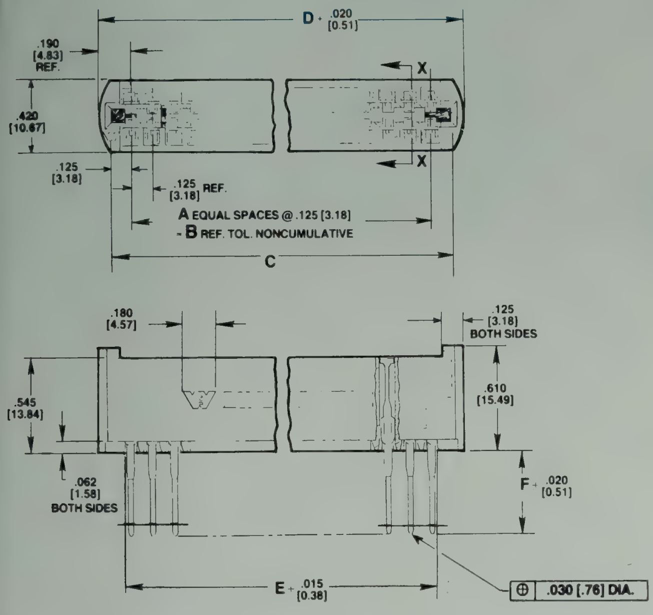
Plating (Selective):
192 - .000030" gold over .000040" nickel overall in contact area and bright solder in C-section and tail
195 - .000030" gold over .000040" nickel overall in contact area and gold flash in C-section and tail
(Consult sales for additional plating options)

HE50D
Step 6

(Deviation):
4494 - .610 high on the ends with .310 card slot depth. Narrow insulator (.380).
4364 - .610 high on the ends with .310 card slot depth.

HE50C
Step 6

(Deviation):
4364 - .610 high on the ends with .310 card slot depth.

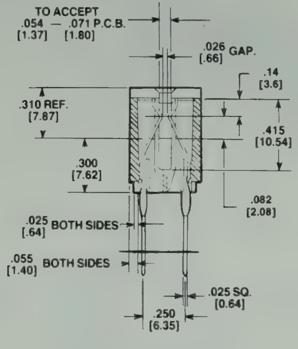


CAT. NO. HE**D ◺△ -4364 SHOWN

Dimensions

Catalog No.	A	B Ref.	C ± .007 [.178]	D ± .020 [0.51]	E ± .015 [0.38]
HE15D	14	1.750 [44.45]	2.000 [50.80]	2.130 [54.10]	1.875 [47.62]
HE61D	60	7.500 [190.50]	7.750 [196.85]	7.880 [200.15]	7.625 [193.68]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .125" [3.18].

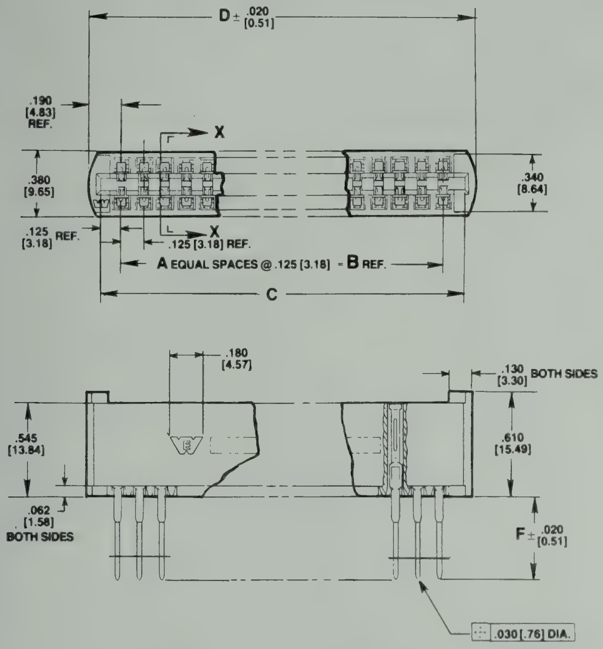


SECTION X-X

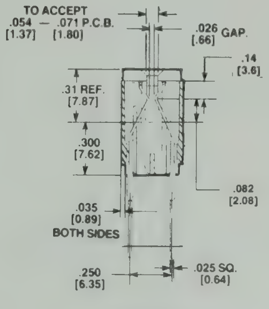
Dimensions

Catalog No.	A	B Ref.	C ± .007 [.178]	D ± .020 [0.51]
HE15D	14	1.750 [44.45]	2.000 [50.80]	2.130 [54.10]
HE61D	60	7.500 [190.50]	7.750 [196.85]	7.880 [200.15]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .125" [3.18].

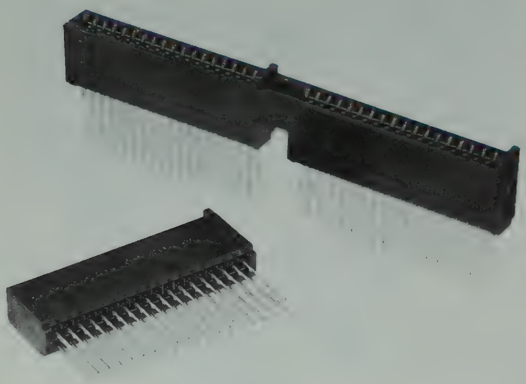


CAT. NO. HE**D ◺△ -4494 SHOWN



SECTION X-X

DEC* Compatible Edgecard

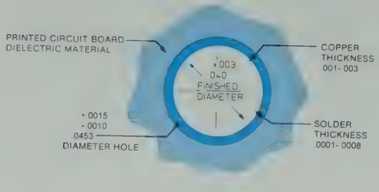


Dual 36 and Dual 18

The DEC* Compatible Dual 36 (72 pin) and Dual 18 (36 pin) pre-assembled connectors on .125" x .125" grid spacing are compatible with the DEC Hex or LSI-11 printed circuit board series. These connectors are interchangeable with present connector products in the market. The C-Press version has straight thru rows rather than the staggered rows of the solder version. Slotted or unslotted ends are available and the connector is stackable to make a 288 pin block.

*Registered Trademark, Digital Equipment Corp.

HOLE SIZE REQUIREMENTS


PRINTED CIRCUIT BOARD DIELECTRIC MATERIAL
COPPER THICKNESS 001- 003
±003
040
FINISHED DIAMETER
+0015
-0010
0453
DIAMETER HOLE
SOLDER THICKNESS .0001- 0008

Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040 ± .003 diameter.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

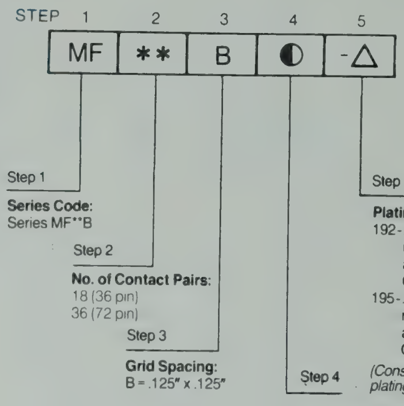
Material:	Polyphenylene Sulfide (PPS) Tradename: Ryton UL Rated 94 V-0 *Color:* Natural
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-40° to +170°C.
Daughter Card:	.054" to .071"

CONTACTS

Type:	Non-Bifurcated beam
Material:	Copper Alloy 725
Plating:	See Plating Chart
Current Rating:	1 amp at 70° C. 3 amps at 20° C.
Contact Resistance:	8 Milliohms (max.)
Insertion Force (Compliant Area):	40 lbs. or less, individual pin
Retention Force (Compliant Area):	10 lb. minimum, individual pin

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1

Series Code:
Series MF**B

Step 2

No. of Contact Pairs:
18 (36 pin)
36 (72 pin)

Step 3

Grid Spacing:
B = .125" x .125"

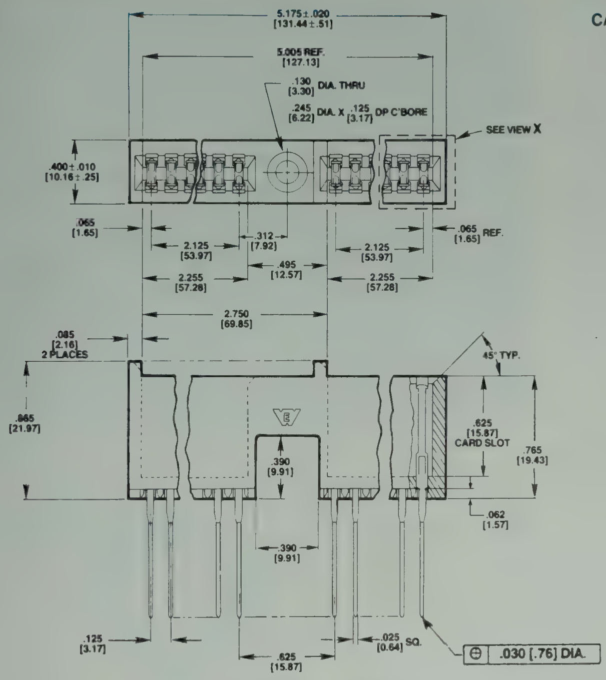
Step 4

Tail Length/End Configuration:
11 = .740", Closed End
12 = .740", Slotted End
13 = .230", Closed End
14 = .230", Slotted End

Step 5

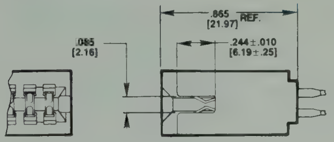
Plating (Selective):
192 - .000030" gold over .000050" nickel overall in contact area and bright solder in C-section and tail.
195 - .000030" gold over .000050" nickel overall in contact area and gold flash in C-section and tail.
(Consult sales for additional plating options)

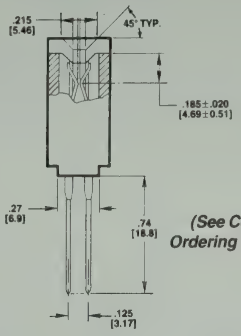
Series MF DEC* Compatible



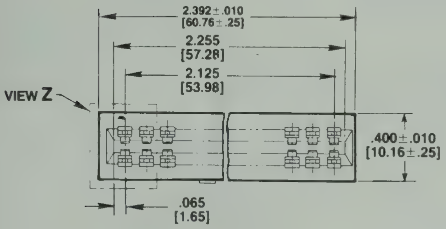
CAT. NO. MF36B-11 △ SHOWN
CLOSED END VERSION

VIEW **X**
CAT. NO. MF36B-12 △ SHOWN
SLOTTED END VERSION

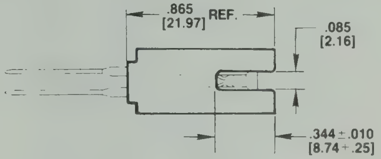


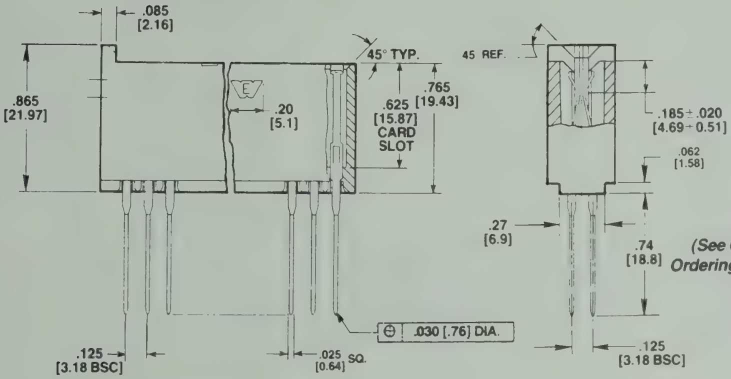


(See Code Ordering Chart)

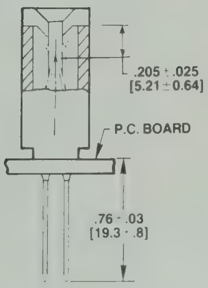


VIEW **Z**
CAT. NO. MF18B-12 △ SHOWN
SLOTTED END VERSION





(See Code Ordering Chart)

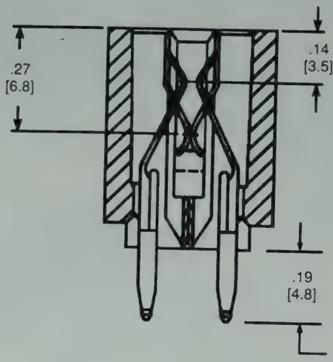


CAT. NO. MF18B-11 △ SHOWN
CLOSED END VERSION

FINAL ASSEMBLY VIEW

Switching Contact

.100 x .200 and .156 x .200 Grid



Edgecard Connectors Only
.100" x .200" & .156" x .200" Grid
Stubtail & Wire Wrap Options

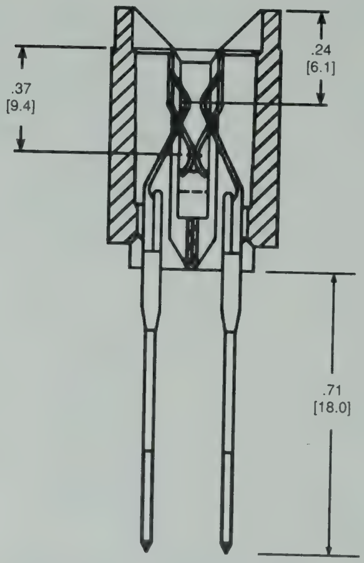
Edgecard Connector customers can specify special switching contacts to be located in any contact position in .100" x .200" or .156" x .200" grid connectors. The switching contact maintains electrical continuity through the contact pair until the daughtercard is fully inserted.

This feature allows a multi-slot expandable backplane to connect signal, power and/or ground voltages through two or more slots on the backplane when daughtercards are not installed. Voltage is routed through the contact pair. When the card is inserted, electrical continuity between the contact pair is broken and voltage is routed through the card.

In telephone switching equipment, switch contacts allow daughtercard replacement without interference in telephone lines.

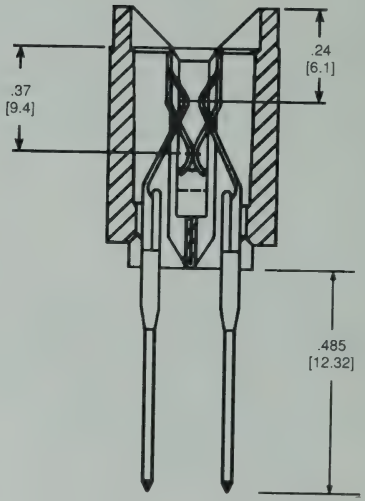
Because each connector application requires a special part number assignment, consult Winchester Electronics department to discuss applications.

.100 x .200 and .156 x .200 Grid

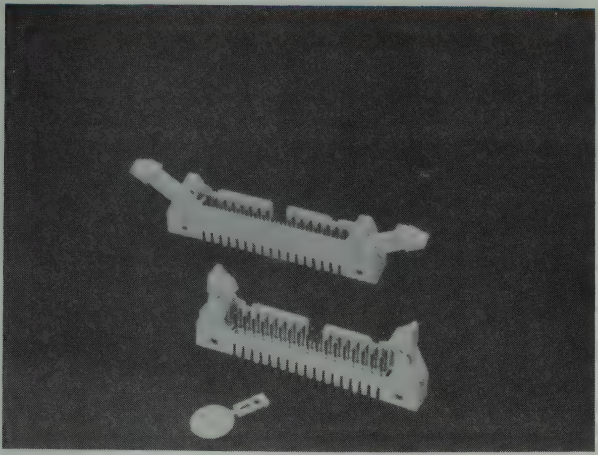


Available with and without card collectors (MK, MJ series).

156 x .200 Grid only



MIL-Spec Headers With Ejector Latches Series 78/79



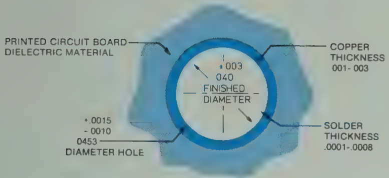
Series 78 (3-Sided Shroud)
Series 79 (4-Sided Shroud)
.100" x .100" Grid
MIL-C-83503 Compatible

C-Press Series 78/79 Header Connectors are designed to meet MIL-C-83503 specifications. They offer compliant contacts for easier and more economical assembly in a solderless connection to the printed circuit board.

The flexibility of three and four-sided header construction backed by 360° polarization protection, assures long term performance and dependability. Polarization is achieved by a combination of a single center slot and two optional polarizing key locations in the header.

Ejector latches make it easy to remove the socket without stressing the P.C. board. In addition, the latch design features a unique snap-in-slot mechanism that assures positive mechanical locking action. Ejector latches are offered in three lengths for sockets — with or without strain relief.

HOLE SIZE REQUIREMENTS


PRINTED CIRCUIT BOARD DIELECTRIC MATERIAL
COPPER THICKNESS 001- 003
±003
040
FINISHED DIAMETER
+.0015
- 0010
0453
DIAMETER HOLE
SOLDER THICKNESS .0001-.0008

Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

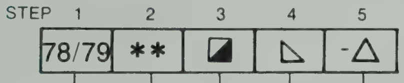
Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O *Color:* Natural
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.

CONTACTS

Material:	Copper Alloy 725
Plating:	See Plating Chart
Current Rating:	1 amp at 70° C. 3 amps at 20° C.
Contact Resistance:	8 Milliohms (max.)
Insertion Force (Compliant Area):	40 lbs. or less, individual pin
Retention Force (Compliant Area):	10 lb. minimum, individual pin

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1

Series Code:
Series 78 (3-sided)
Series 79 (4-sided)

Step 2

No. of Contacts:
10,14,16,20,26,
34,40,50,60,64

Step 3

Tail Length Options:
1 = .175" [4.44]
2 = .570" [14.48] [.025" Sq. Wire
3 = .700" [17.78] [Wrap Tails

Step 4

Ejector Latch Options:
0 = No Latch Required
1 = For Use With 61 or 81 Series Socket Connector **Without** Strain Relief
2 = For Use With 61 or 81 Series Socket Connector **With** Strain Relief
3 = For Use With 51 Series Socket Connector **With** or **Without** Strain Relief
4 = Ejectors Only

Step 5

Plating:
See Chart Below

EXAMPLE: To order a 4-sided header with 50 contacts, .175" tail length, no latches, .000030 Au on the contact area and bright solder on the C-section and tail, specify **Cat. No. 79-50-10-D.**

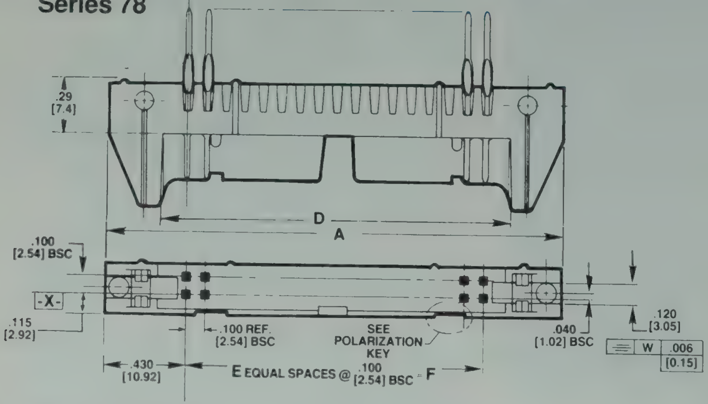
PLATING CHART:

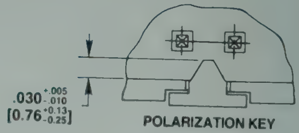
C — .000030 Au selective plating over .000040 Ni on contact area. Au Flash on C-section and tail.
D — .000030 Au selective plating over .000040 Ni on contact area. Bright Solder on C-section and tail.

GOLD FLASH — .000002 to .000005 gold.
BRIGHT SOLDER — .000080 to .000150 bright solder

MIL-Spec Headers With Ejector Latches

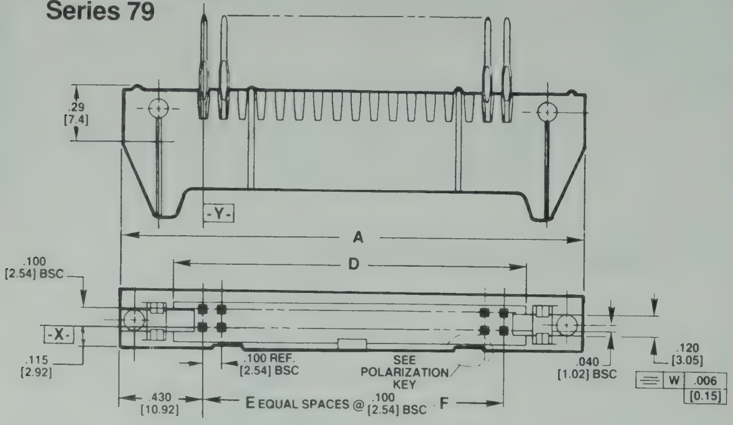
THREE -SIDED HEADER
Series 78

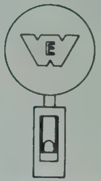




POLARIZATION KEY INSTALLED

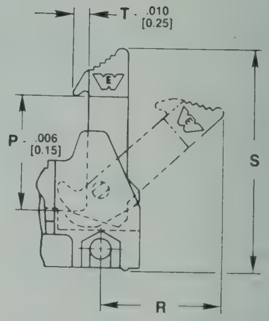
FOUR-SIDED HEADER
Series 79





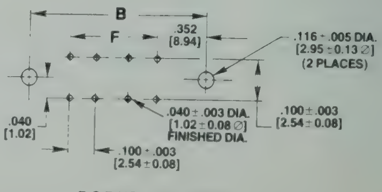
POLARIZATION KEY

TO BE ORDERED SEPARATELY UNDER CATALOG NO. 109-101831



EJECTOR LATCH

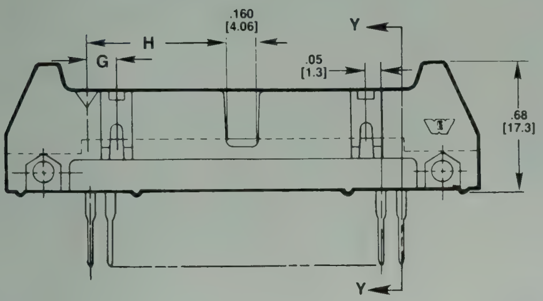
CATALOG NO.	A	B	D	E	F	G	H
78/79-10-	1.26 [32.0]	1.10 [27.9]	.705 [17.91]	4	.400 [10.16]	NOT AVAILABLE	NOT AVAILABLE
78/79-14-	1.46 [37.1]	1.30 [33.0]	.905 [22.99]	6	.600 [15.24]	NOT AVAILABLE	.22 [5.6]
78/79-16-	1.56 [39.6]	1.40 [35.6]	1.005 [25.53]	7	.700 [17.78]	.15 [3.8]	.27 [6.9]
78/79-20-	1.76 [44.7]	1.60 [40.6]	1.205 [30.61]	9	.900 [22.86]	.15 [3.8]	.37 [9.4]
78/79-26-	2.06 [52.3]	1.90 [48.3]	1.505 [38.23]	12	1.200 [30.48]	.15 [3.8]	.52 [13.2]
78/79-34-	2.46 [62.5]	2.30 [58.4]	1.905 [48.39]	16	1.600 [40.64]	.15 [3.8]	.72 [18.3]
78/79-40-	2.76 [70.1]	2.60 [66.0]	2.205 [56.01]	19	1.900 [48.26]	.15 [3.8]	.87 [22.1]
78/79-50-	3.26 [82.8]	3.10 [78.7]	2.705 [68.71]	24	2.400 [60.96]	.15 [3.8]	1.12 [28.4]
78/79-60-	3.76 [95.5]	3.60 [91.4]	3.205 [81.41]	29	2.900 [73.66]	.15 [3.8]	1.37 [34.8]
78/79-64-	3.96 [100.6]	3.80 [96.52]	3.405 [86.49]	31	3.100 [78.74]	.15 [3.8]	1.47 [37.34]

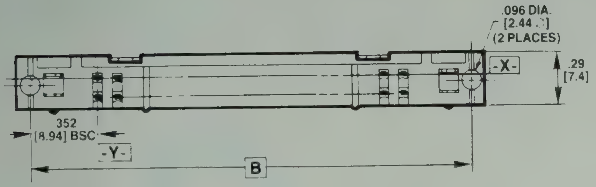


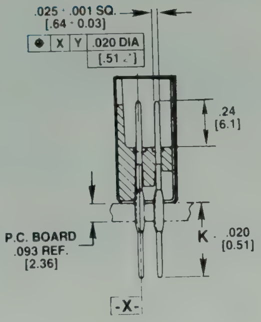
P.C.B HOLE PATTERN

MIL-Spec Headers With Ejector Latches Series 78/79

THREE-SIDED HEADER Series 78

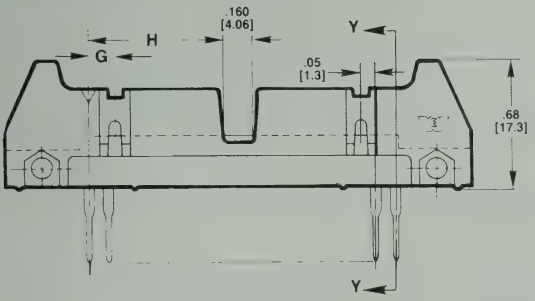


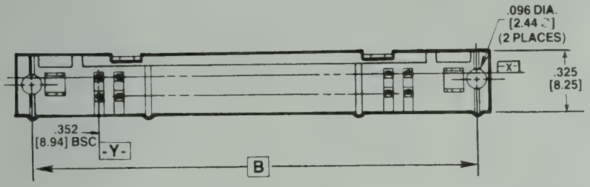


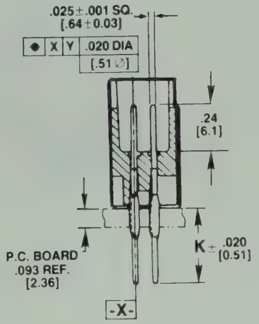


SECTION Y-Y

FOUR-SIDED HEADER Series 79







SECTION Y-Y

Latching Options

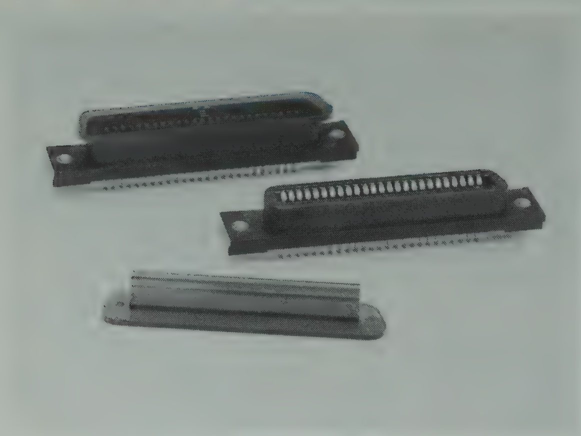
	P	R	S	T
0	OMIT LATCHES			
1	.430 [10.92]	.49 [12.4]	.96 [24.4]	.08 [2.0]
2	.573 [14.55]	.60 [15.2]	1.10 [27.9]	.08 [2.0]
3	.463 [11.76]	.52 [13.2]	.99 [25.1]	.05 [1.3]

Tail Length Options

	K	DESC.
1	.175 [4.44]	
2	.570 [14.48]	.025°.001 [.635°0.03] SQ. WIRE WRAP TAILS
3	.700 [17.78]	

84/88 Series

Pre-Assembled Telecom

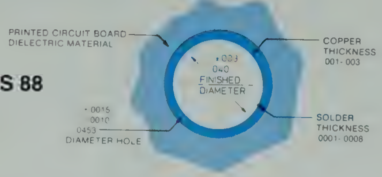


Vertical Board Mount
Series 84 / Small Diameter P.T.H.
Series 88 / Standard Diameter P.T.H.
Plug:
.085" x .151" and .085" x .160" Grid
Receptacle:
.085" x .169" and .085" x .160" Grid

Winchester Electronics offers you a Delta Ribbon connector with two contact diameters: Small Diameter - Series 84 (for holes drilled to .039" diameter) and Standard Diameter - Series 88 (for holes drilled to .0453" diameter).

Both series connectors are available with two grid patterns. Sizes 50, 36, 24, and 14 positions are available in both plug and receptacle. A variety of latching and screw lock hardware kits are also available.

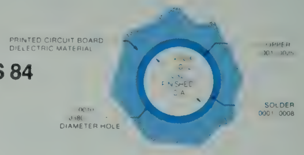
SERIES 88



Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

SERIES 84



Small Diameter P.T.H.

1. Before thru-hole plating .037 to .039.
2. Copper plating thickness .001 to .0025.
3. Solder plating thickness .0001 to .0008.
4. Final hole dimension must be gaged to $.032^{+.003}_{-.002}$ diameter.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O
Color:	.085" x .151" Grid, White .085" x .169" Grid, White .085" x .160" Grid, Black
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.

CONTACTS

Material:	Copper Alloy 725
Plating:	Selective Plating. See Plating Chart
Current Rating:	1 amp at 70° C. 3 amps at 20° C.

DUST COVER/INSERTION CAP:

Material:	Polycarbonate Thermoplastic UL Rated 94 V-0
Color:	*Receptacle* - Red *Plug* - Blue

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6
84/88	11/12	**	P/R	◐	-△

Step 1

Series Code:
Series 84
Series 88

Step 2

Grid Pattern:
11 = .085" x .151" (Plug)
.085" x .169" (Recpt.)
12 = .085" x .160" (P & R)
(Insulators for .085" x .160" grid are black in color)

Step 3

No. of Contacts:
14, 24, 36, 50

Step 4

Insulator:
P = Plug
R = Receptacle

Step 5

Insert:
0 = No Insert
1 = #4-40 Flush Insert
2 = #4-40 Standoff

Step 6

Plating:
See Chart Below

EXAMPLE: A C-Tel Connector with C-Press contacts on .085" x .160" grid, 50 contacts, receptacle, no insert, and .000030 Au on the contact area and Au flash on the C-Section, specify
Cat. No. 84-1250R-0-C (Small Dia.)
Cat. No. 88-1250R-0-C (Standard Dia.)

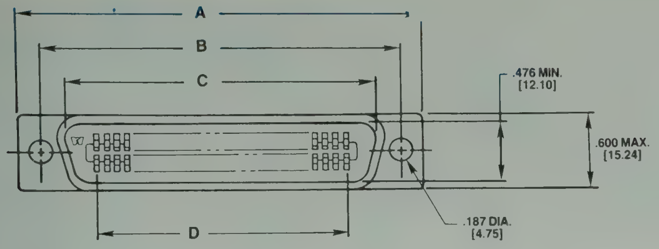
PLATING CHART:

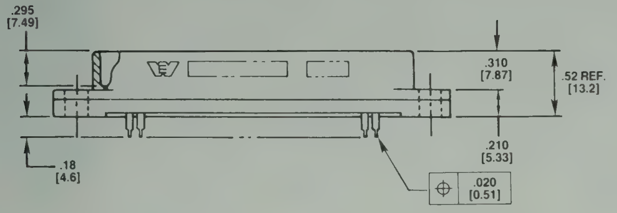
C — .000030 Au selective plating over .000050 Ni on contact area. Au Flash on C-section

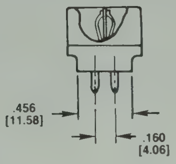
D — .000030 Au selective plating over .000050 Ni on contact area. Bright Solder on C-section.

GOLD FLASH — .000002 to .000005 gold.
BRIGHT SOLDER — .000050 to .000100 bright solder.

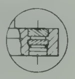
PLUG CONNECTOR
.085" x .160" GRID



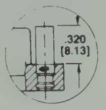




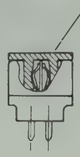
WITH #4-40 FLUSH INSERT



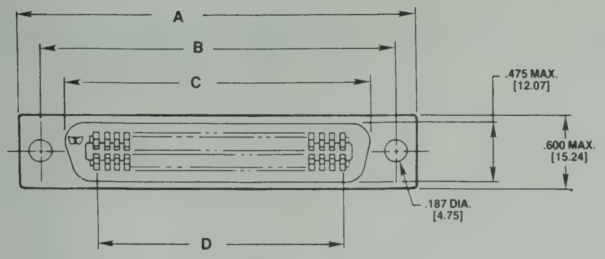
WITH #4-40 STANDOFF OPTION

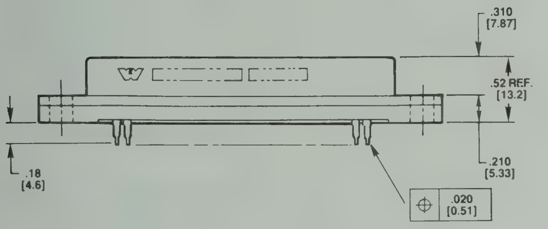


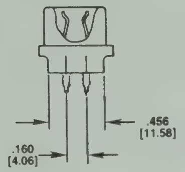
DUST COVER/INSERTION CAP:



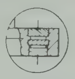
RECEPTACLE CONNECTOR
.085" x. 160" GRID



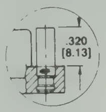




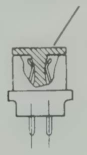
WITH #4-40 FLUSH INSERT



WITH #4-40 STANDOFF OPTION



DUST COVER/INSERTION CAP:



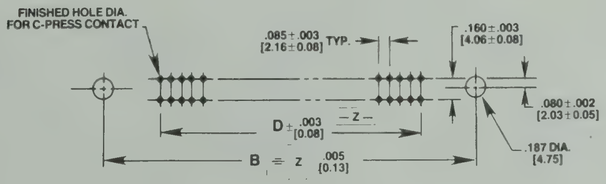
PLUG & RECEPTACLE P.C. BOARD HOLE PATTERN - .085" x .160" GRID

SERIES 84

$.032^{+.003}_{-.002}$
$[0.82^{+0.08}_{-0.05}]$

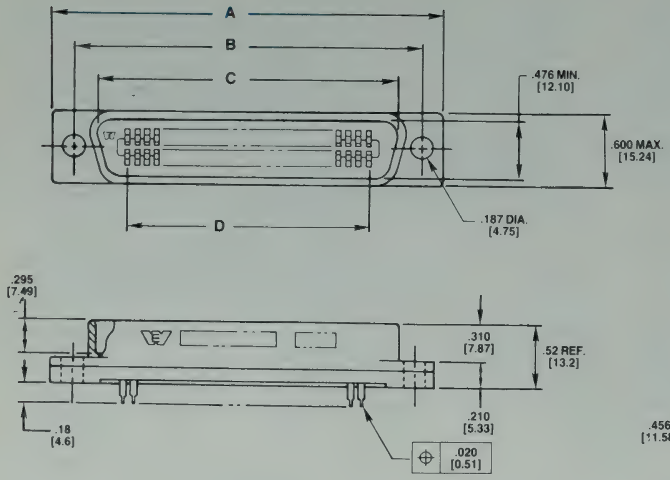
SERIES 88

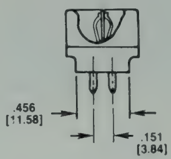
.040 ± .003
[1.02 ± 0.08]



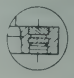
A dust cover that also acts as the insertion tool comes with each connector. These caps are coded red for receptacle and blue for plug per telecommunications standards.

PLUG CONNECTOR
.085" x. 151" GRID

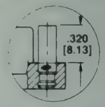




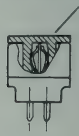
WITH #4-40 FLUSH INSERT



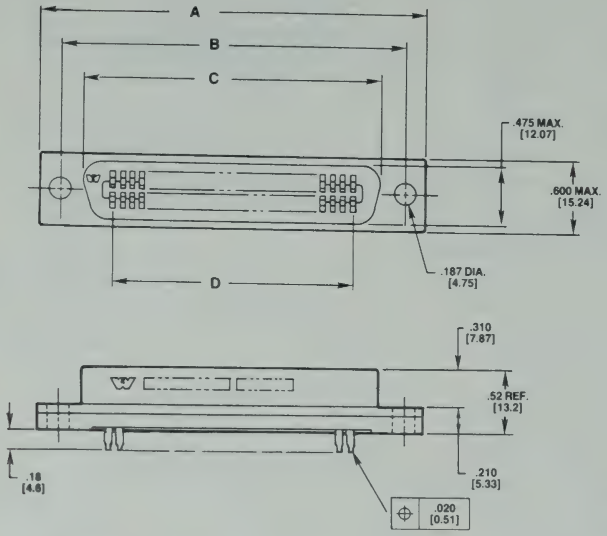
WITH #4-40 STANDOFF OPTION

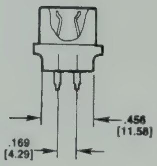


DUST COVER/INSERTION CAP:

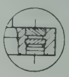


RECEPTACLE CONNECTOR
.085" x .169" GRID

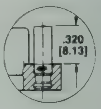




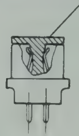
WITH #4-40 FLUSH INSERT



WITH #4-40 STANDOFF OPTION



DUST COVER/INSERTION CAP:



SERIES 84

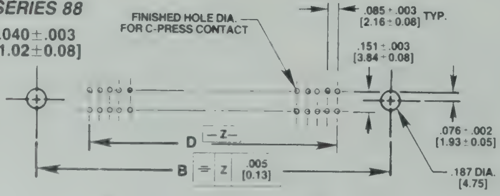
$.032^{+.003}_{-.002}$

$[0.82^{+0.08}_{-0.05}]$

SERIES 88

.040±.003

[1.02±0.08]



PLUG P.C. BOARD HOLE PATTERN

.085" x .151" GRID

SERIES 84

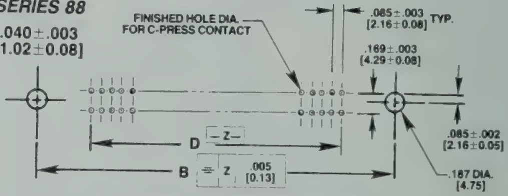
$.032^{+.003}_{-.002}$

$[0.82^{+0.08}_{-0.05}]$

SERIES 88

.040±.003

[1.02±0.08]



RECEPTACLE P.C. BOARD HOLE PATTERN

.085" x .169" GRID

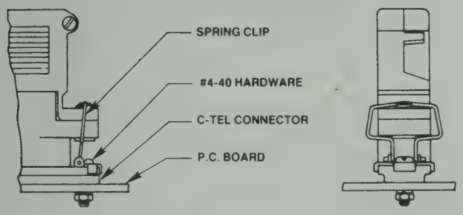
Dimensions

CATALOG NO.	A	B	C	D
84/88-1114P- 84/88-1214P-	1.745 [44.32]	1.417 [35.99]	1.004 [25.50]	.510 [12.95]
84/88-1114R- 84/88-1214R-			.997 [25.32]	
84/88-1124P- 84/88-1224P-	2.170 [55.12]	1.842 [46.79]	1.429 [36.30]	.935 [23.75]
84/88-1124R- 84/88-1224R-			1.422 [36.12]	
84/88-1136P- 84/88-1236P-	2.680 [68.07]	2.352 [59.74]	1.939 [49.25;]	1.445 [36.70]
84/88-1136R- 84/88-1236R-			1.932 [49.07]	
84/88-1150P- 84/88-1250P-	3.275 [83.19]	2.947 [74.85]	2.534 [64.36]	2.040 [51.82]
84/88-1150R- 84/88-1250R-			2.527 [64.19]	

HARDWARE

MATING CONNECTOR WITH BACKSHELL

KIT CAT. NO. 84/88-101

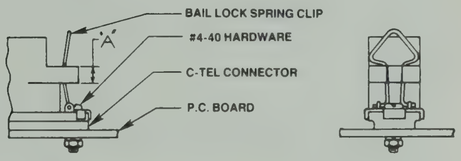


MATING CONNECTOR WITH BAIL LOCK EARS

* *KIT CAT. NO. 84/88-104* ("A" = .19)

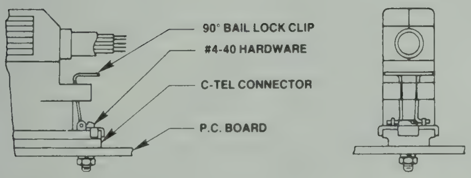
KIT CAT. NO. 84/88-105 ("A" = .09)

* Winchester Electronics Standard



MATING CONNECTOR WITH 90° CABLE

KIT CAT. NO. 84/88-102

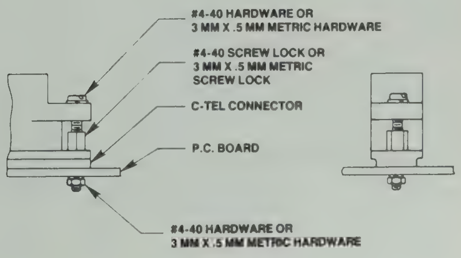


MATING CONNECTOR WITH MTG. HOLE

INCHES: *KIT CAT. NO. 84/88-103*

METRIC: *KIT CAT. NO. 84/88-106*

(THIS KIT CAN ONLY BE USED ON CONNECTOR WITHOUT INSERTS)



184/188 Series

Shielded Telecom

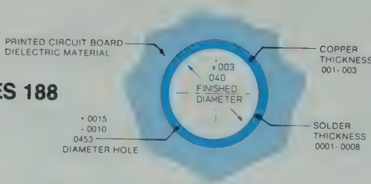
Vertical Board Mount
Series 184/Small Diameter P.T.H.
Series 188 / Standard Diameter P.T.H.
Plug: .085" x .160" Grid
Receptacle: .085" x .160" Grid

Winchester Electronics offers you a Shielded Telecommunications connector with two contact diameters: Small Diameter - Series 184 (for holes drilled to .039" diameter); and, Standard Diameter - Series 188 (for holes drilled to .0453" diameter).

IEEE 488 mateable, shielded PCB connectors are available in 24, 36 and 50 position configurations.

These connectors meet industry standards as defined by RS232 and RS449, and mate with all D-Sub product types.

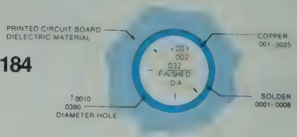
SERIES 188


PRINTED CIRCUIT BOARD DIELECTRIC MATERIAL
COPPER THICKNESS 001- 003
±003
040
FINISHED DIAMETER
+ 0015
- 0010
0453
DIAMETER HOLE
SOLDER THICKNESS 0001- 0008

Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

SERIES 184



Small Diameter P.T.H.

1. Before thru-hole plating .037 to .039.
2. Copper plating thickness .001 to .0025.
3. Solder plating thickness .0001 to .0008.
4. Final hole dimension must be gaged to $.032^{+.003}_{-.002}$ diameter.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O
Color:	.085" x .160" Grid, Black
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.

CONTACTS

Material:	Copper Alloy 725
Plating:	Selective Plating. See Plating Chart
Current Rating:	1 amp at 70° C. 3 amps at 20° C.

DUST COVER/INSERTION CAP:

Material:	Polycarbonate Thermoplastic UL Rated 94 V-0
Color:	*Receptacle* - Red *Plug* - Blue

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6
184 /188	12	**	P/R	◐	-△

Step 1
Series Code:
Series 184 (Shielded)
Series 188 (Shielded)

Step 2
Grid Pattern:
12 = .085" x .160" (P & R)

Step 3
No. of Contacts:
24, 36, 50

Step 4
Insulator:
P = Plug
R = Receptacle

Step 5
Insert:
0 = .187" Dia. Thru Hole (Series 184)
0 = No Insert (Series 188)
1 = #4-40 Flush Insert
2 = #4-40 Standoff

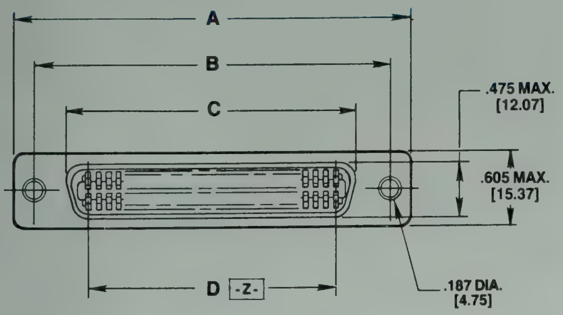
Step 6
Plating:
See Chart Below

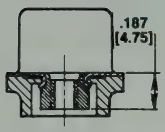
EXAMPLE: A Shielded C-Tel Connector with C-Press contacts on .085" x .160" grid, 50 contacts, receptacle, no insert, and .000030 Au on the contact area and Au flash on the C-Section, specify
Cat. No. 184-1250R-0-C (Small Dia.)
Cat. No. 188-1250R-0-C (Standard Dia.)

PLATING CHART:

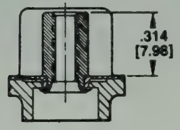
C — .000030 Au selective plating over .000050 Ni on contact area. Au Flash on C-section.
D — .000030 Au selective plating over .000050 Ni on contact area. Bright Solder on C-section.

GOLD FLASH — .000002 to .000005 gold.
BRIGHT SOLDER — .000050 to .000100 bright solder.

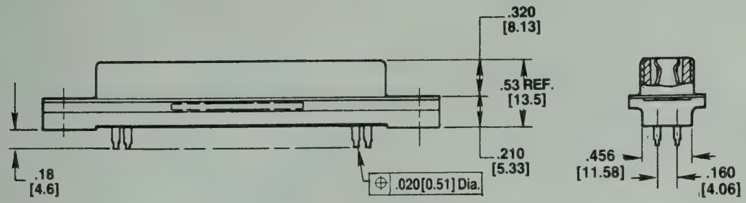




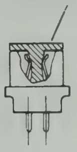
WITH #4-40 FLUSH INSERT



WITH #4-40 STANDOFF OPTION



DUST COVER/INSERTION CAP:



SERIES 184

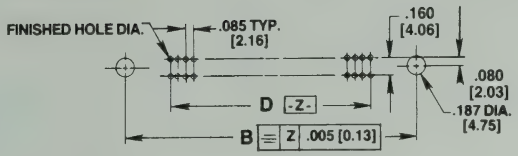
$.032^{+.003}_{-.002}$

$[0.82^{+0.08}_{-0.05}]$

SERIES 188

.040±.003

[1.02±0.08]



P.C. BOARD HOLE PATTERN

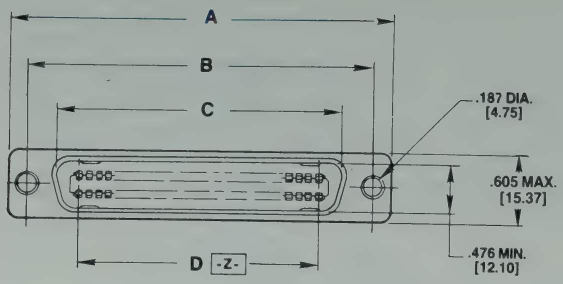
A dust cover that also acts as the insertion tool comes with each connector. These caps are coded red for receptacle and blue for plug per telecommunications standards.

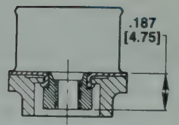
Dimensions

CATALOG NO.	A	B	C	D
184-1224R- 188-1224R-	2.165 [54.99]	1.842 [46.79]	1.419 [36.04]	.935 [23.75]
184-1236R- 188-1236R-	2.675 [67.95]	2.352 [59.74]	1.920 [48.77]	1.445 [36.70]
184-1250R- 188-1250R-	3.270 [83.06]	2.947 [74.85]	2.520 [64.01]	2.040 [51.82]

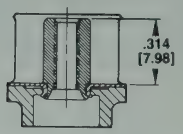
184/188 Series

.085" x .160" Grid **Plug**

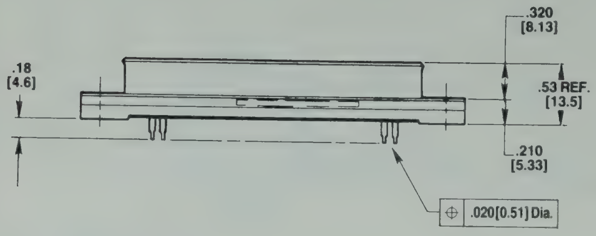


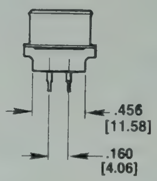


WITH #4-40 FLUSH INSERT



WITH #4-40 STANDOFF OPTION





DUST COVER/INSERTION CAP:

SERIES 184

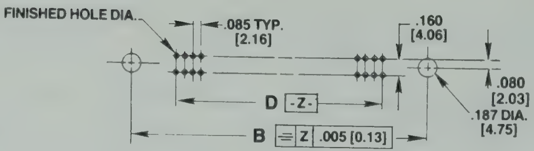
$.032^{+.003}_{-.002}$

$[0.82^{+0.08}_{-0.05}]$

SERIES 188

.040±.003

[1.02±0.08]



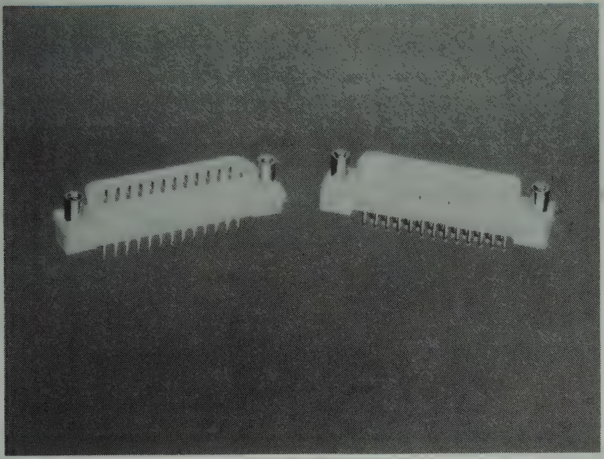
A dust cover that also acts as the insertion tool comes with each connector. These caps are coded red for receptacle and blue for plug per telecommunications standards.

P.C. BOARD HOLE PATTERN

Dimensions

CATALOG NO.	A	B	C	D
184-1224P- 188-1224P-	2.165 [54.99]	1.842 [46.79]	1.437 [36.50]	.935 [23.75]
184-1236P- 188-1236P-	2.675 [67.95]	2.352 [59.74]	1.938 [49.23]	1.445 [36.70]
184-1250P- 188-1250P-	3.270 [83.06]	2.947 [74.85]	2.538 [64.47]	2.040 [51.82]

D-Sub Pin & Socket .109" x .112" Grid — Series 89



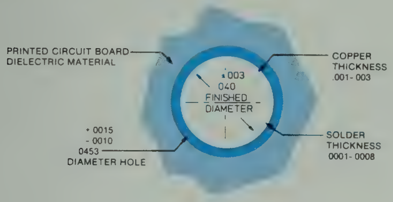
Series 89, .109" x .112" Grid
RS232 & RS449 Compatible

C-Press D-Subminiature connectors are pre-assembled for easy one-step assembly to the board. Contacts are individually removable and replaceable through the insulator. For the socket connector, the upper molding must be removed before contacts can be removed or replaced. The upper molding snaps back into place. Insulators are removable and replaceable without disturbing the contacts. This connector offers all the advantages of an EIA P.C. mount connector with the added feature of solderless press-fit C-Press contacts. The socket connector is the closed entry type to avoid misalignment when mating.

Both the pin and socket versions come in sizes 9, 15, 25 and 37 positions. Threaded standoffs, inserts and quick connect latches are available.

These connectors meet industry standards as defined by RS232 and RS449.

HOLE SIZE REQUIREMENTS


PRINTED CIRCUIT BOARD DIELECTRIC MATERIAL
COPPER THICKNESS .001-.003
±.003 .040 FINISHED DIAMETER
+.0015 -.0010 .0453 DIAMETER HOLE
SOLDER THICKNESS .0001-.0008

SERIES 89
Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O *Color:* Natural
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.

CONTACTS

Material:	Copper Alloy 725
Plating:	Selective Plating. See Code Ordering Chart.
Current Rating:	1 amp at 70° C. 3 amps at 20° C.
Insertion Force (Compliant Area):	40 lbs. or less, individual pin
Retention Force (Compliant Area):	10 lb. minimum, individual pin

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6	7
	89	-11	**	S/P	- ◺	- ◩	-△

Step 1

Series Code:
Series 89

Step 2

Grid Pattern:
11 = .109" x .112"

Step 3

No. of Contacts:
9, 15, 25, 37

Step 4

Insulator:
S = Socket
P = Pin

Step 5

Latch Options:
1 = Without Latches
2 = With Latches (Note: In step 6, only -0 and -1 are available.)

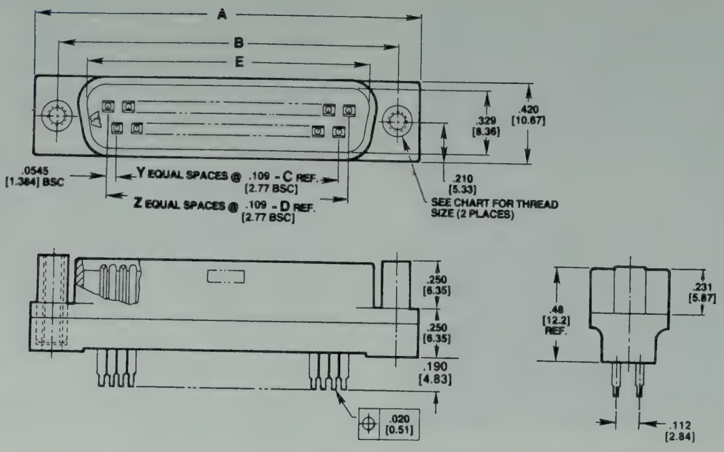
Step 6

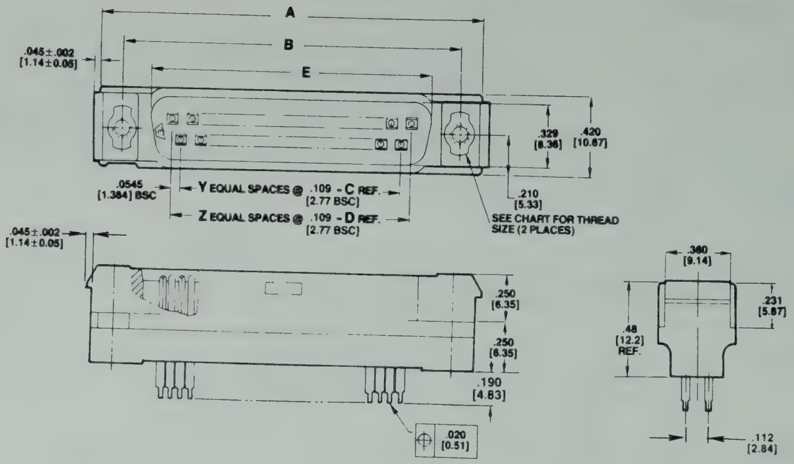
Bushing Thread Size:
0 = .168 dia. thru hole
1 = #4-40 UNC Standoff
2 = #2-56 UNC Standoff
3 = #4-40 UNC Insert
4 = #2-56 UNC Insert

Step 7

Plating:
D - .000030 Au selective plating over .000050 Ni on contact area. Bright Solder on C-section.
Bright Solder - .000050 to .000100 bright solder
For additional plating, Consult Sales Dept.

EXAMPLE: Connector with 25 contacts, socket version, without latches, with #4-40 threaded standoff, and .000030 Au on contact area and bright solder on C-section specify **Cat. No. 89-1125S-11-D.**





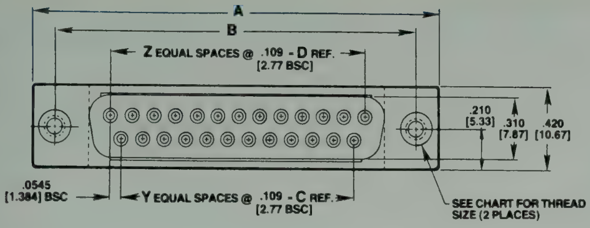
Dimensions

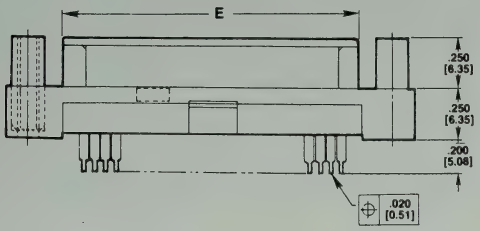
(Bushing Thread Size, See Code Ordering Chart)

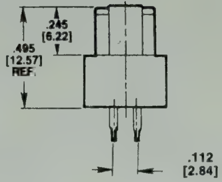
CATALOG NO.	A	B	C	D	E	F-1	F-2	Y	Z
89-1109S-	1.222 [31.04]	.984 [24.99]	.327 [8.30]	.436 [11.07]	.640 [16.26]	.136 [3.45]	.106 [2.69]	3	4
89-1109P-					.666 [16.92]				
89-1115S-	1.550 [39.37]	1.312 [33.32]	.654 [16.61]	.763 [19.38]	.968 [24.59]			6	7
89-1115P-					.994 [25.25]				
89-1125S-	2.090 [53.09]	1.852 [47.04]	1.199 [30.45]	1.308 [33.22]	1.508 [38.30]	#4-40 UNC THREAD ONLY	#2-56 UNC THREAD ONLY	11	12
89-1125P-					1.534 [38.96]				
89-1137S-	2.738 [69.54]	2.500 [63.50]	1.853 [47.07]	1.962 [49.83]	2.156 [54.76]			17	18
89-1137P-					2.182 [55.42]				

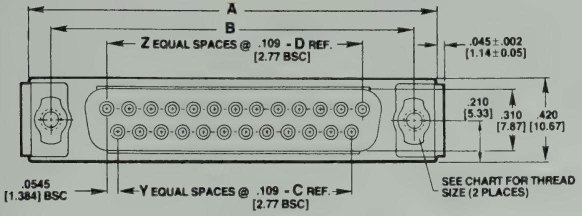
Socket D-Sub .109" x .112" Grid

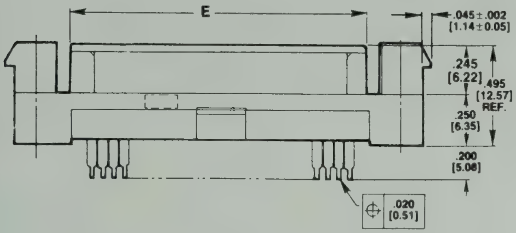
Series 89

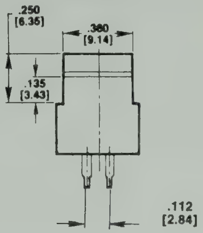




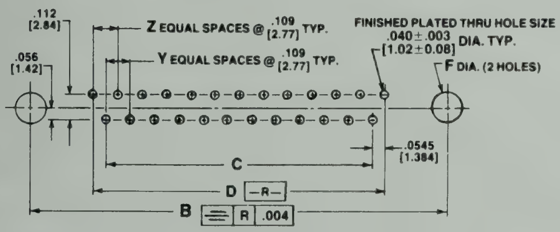




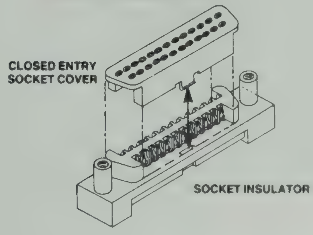




PRINTED CIRCUIT BOARD HOLE PATTERN

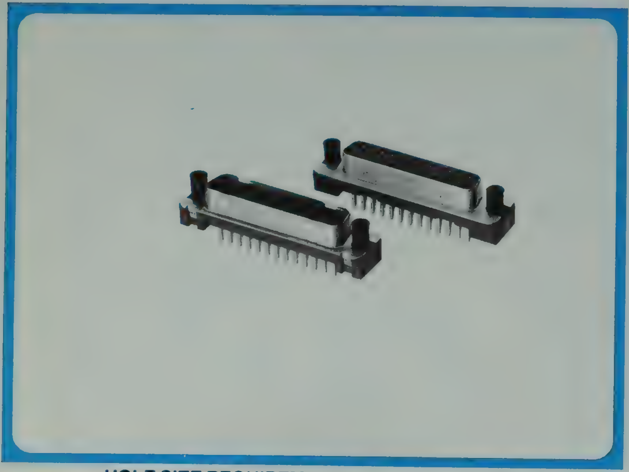

.112
[2.84]
Z EQUAL SPACES @ .109 [2.77] TYP.
Y EQUAL SPACES @ .109 [2.77] TYP.
FINISHED PLATED THRU HOLE SIZE
.040±.003 [1.02±0.08] DIA. TYP.
F DIA. (2 HOLES)
.056
[1.42]
.0545
[1.384]
C
D
R
B
R
.004

C-PRESS D-SUB 25 POSITIONS
SOCKET CONNECTOR



189 Series

.109" x .112" Grid Shielded D-Sub Pin & Socket



Series 189, .109" x .112" Grid Shielded - Vertical Board Mount

Winchester Electronics offers you a D-Subminiature pin and socket connector with metal shielding to meet your FCC requirements on EMI, ESD and RFI.

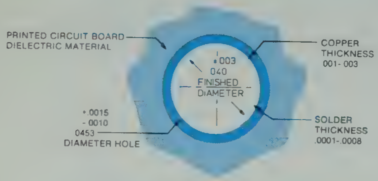
With these solderless press-fit contacts, input/output lines can be brought directly to any location on the P.C. backpanel. These connectors meet industry standards as defined by RS232 and RS449.

As with other Winchester Electronics D-Sub connectors, they are pre-assembled and contacts are individually removable and replaceable through the insulator. Upper molding on socket connector snaps easily back into place.

These C-Press Series 189 connectors can be specified with 9, 15, 25, and 37 contact positions. The socket connector is the closed entry type to avoid misalignment when mating.

Hardware options include threaded inserts, threaded standoffs, grounded standoffs, and a quick latch system. Ground straps are also available.

HOLE SIZE REQUIREMENTS

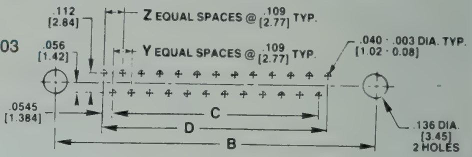

PRINTED CIRCUIT BOARD DIELECTRIC MATERIAL
COPPER THICKNESS 001- 003
•.003
040
FINISHED DIAMETER
+.0015
-.0010
0453
DIAMETER HOLE
SOLDER THICKNESS .0001-.0008

SERIES 189

Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

Recommended P.C. Board Hole Pattern


.112 [2.84]
Z EQUAL SPACES @ .109 [2.77] TYP.
.056 [1.42]
Y EQUAL SPACES @ .109 [2.77] TYP.
.040 · .003 DIA. TYP. [1.02 · 0.08]
.0545 [1.384]
C
D
B
.136 DIA. [3.45] 2 HOLES

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O *Color:* Black *Shield:* Tin Plated Steel
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.

CONTACTS

Material:	*Pin* - Copper Alloy 725 *Socket* - Beryllium Copper
Plating:	Selective Plating. See Code Ordering Chart.
Current Rating:	1 amp at 70° C. 3 amps at 20° C.
Insertion Force (Compliant Area):	40 lbs. or less, individual pin
Retention Force (Compliant Area):	10 lb. minimum, individual pin

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6	7
	189	- 11	**	S/P	- ◐	- △	- □

Step 1
Series Code:
Series 189

Step 2
Grid Pattern:
11 = .109" x .112"

Step 3
No. of Contacts:
9, 15, 25, 37

Step 4
Insulator:
S = Socket
P = Pin

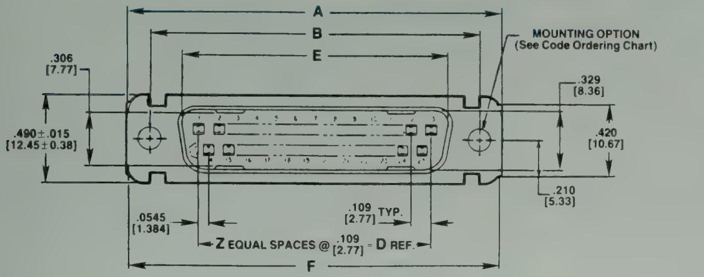
Step 5
Mounting Options:
0 = .125" Dia. Thru Holes (-4338 only)
1 = #4-40 Thru Latch (-4338 only)
2 = M3-0.5 Thru Latch (-4338 only)
3 = #4-40 Standoff
4 = #2-56 Standoff
5 = #4-40 Insert
6 = #2-56 Insert
7 = Ground Straps with Thru Holes (-4514 only)
8 = #4-40 Ground Standoff (-4338 only)
9 = #2-56 Ground Standoff (-4338 only)
10 = .168" Dia. Thru Holes

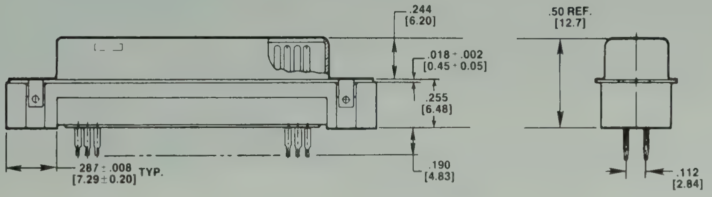
Step 6
Plating:
D - .000030 Au selective plating over .000050 Ni on contact area. Bright Solder on C-section.
Bright Solder - .000050 to .000100 bright solder.
For additional plating, Consult Sales Dept.

Step 7
-4338 = No Grounding Strap
-4514 = With Grounding Strap

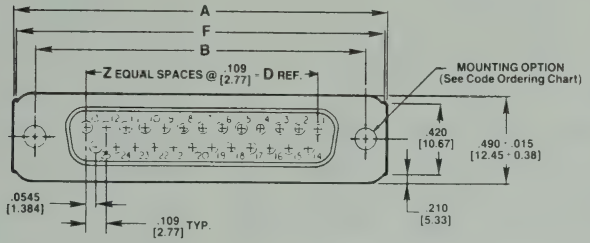
EXAMPLE: Shielded connector with 25 contacts, socket version, with #4-40 threaded inserts, and .000030 Au on contact area and bright solder on C-section with ground straps, specify
Cat. No. 189-1125S-5-D-4514.

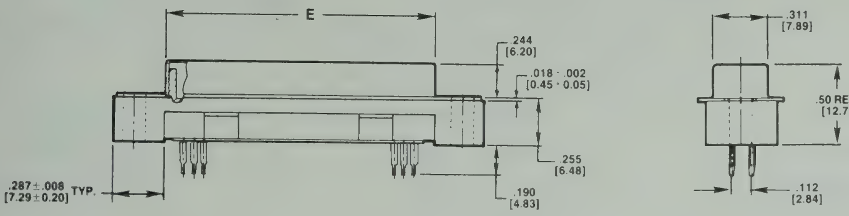
Shielded D-Sub Pin & Socket .109" x .112" Grid Series 189





Pin Module



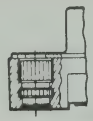


Socket Module

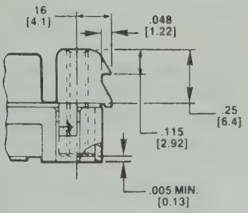
Dimensions

Catalog No.	A±.006	B	C	D	E	F±.015	Y	Z
189-1109S-	1.222 [31.04]	.984 [24.99]	.327 [8.30]	.436 [11.07]	.643 [16.33]	1.213 [30.81]	3	4
189-1109P-					.666 [16.92]			
189-1115S-	1.550 [39.37]	1.312 [33.32]	.654 [16.61]	.763 [19.38]	.971 [24.66]	1.541 [39.14]	6	7
189-1115P-					.994 [25.25]			
189-1125S-	2.090 [53.09]	1.852 [47.04]	1.199 [30.45]	1.308 [33.22]	1.511 [38.38]	2.088 [53.04]	11	12
189-1125P-					1.534 [38.96]			
189-1137S-	2.738 [69.54]	2.500 [63.50]	1.853 [47.07]	1.962 [49.83]	2.159 [54.84]	2.729 [69.32]	17	18
189-1137P-					2.182 [55.42]			

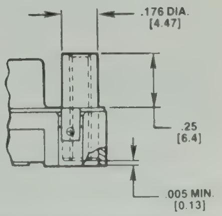
Pin & Socket Mounting Options



#4-40 OR #2-56 INSERT



#4-40 OR M3 LATCH



#4-40 OR #2-56 STANDOFF BUSHING

C-Press Compliant Contact Technical Data

General

Material:	Copper Alloy
Plating:	Gold over Nickel and/or Tin-Lead
Current Rating:	3 Amperes continuous
Operating Temperature:	-55° C to +105° C.

Recommended Printed Circuit Board (PCB) Parameters

PCB Thickness: .093" nominal and thicker

Consult factory for PCB thicknesses less than .093" nominal.

Standard C-Press Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solde
3. Final hole dimension must be gaged to .040±.003 diameter.

Small Diameter P.T.H. for Series 84 & 184

1. Before thru-hole plating .037 to .039.
2. Copper plating thickness .001 to .0025.
3. Solder plating thickness .0001 to .0008.
4. Final hole dimension must be gaged to $.032^{+.003}_{-.002}$ diameter.

Consult Factory for Bare Copper PTH Application.

ENVIRONMENTAL

Low level contact to plated thru-hole circuit resistance does not increase by more than 1 milliohm, nor is contact retention force less than 7.5 pounds after exposure to the following conditions:

Test	Description	Method
Thermal Aging	1000 hrs. @ 85° C.	MIL-STD-1344, Method 1005
Thermal Cycling	25 cycles from -55° to +105° C.	MIL-STD-1344, Method 1003
Humidity	96 hrs., 40° C., 90-95% RH	MIL-STD-1344, Method 1002
Vibration	2 hrs./axis, 15g sinusoidal, 10 - 2000 Hz	MIL-STD-1344, Method 2005
Physical Shock	18 impacts, 50g half sine, 11 ms duration	MIL-STD-1344, Method 2004
Conditioned Retention	3 cycles of pin insertion and withdrawal	MIL-STD-1344, Method 2007
Salt Spray	5% solution, 48 hrs. 35° C.	MIL-STD-1344, Method 1001
Gas Tight Joint	1:1 Aqueous HCl & NH_3 30 minutes	MIL-C-28859, Sect. 4.7.4.8

MECHANICAL

Description	Requirement*	Results
Contact Torque Resistance	3 inch-ounce minimum	Pass
Low Level Circuit Resistance (Contact to Plated Thru-Hole)	2 milliohms maximum (double sided PCB)	0.5 milliohms typical
Contact Insertion Force	45 pounds maximum	25-35 pounds typical
Contact Retention Force	7.5 pounds minimum	15-30 pounds typical 10 pounds minimum
After 3 Replacement Cycles		
- Retention Force	7.5 pounds minimum	10-25 pounds typical
- Hole Deformation Radius	less than .0015"	Pass
- Hole Wall Damage	more than .0003" copper remaining	Pass

*Requirements per MIL-STD-2166, Compliant Pin Electrical Connections, and MIL-C-28859, General Specification for Printed Wiring Electrical Backplane Connector Component Parts.

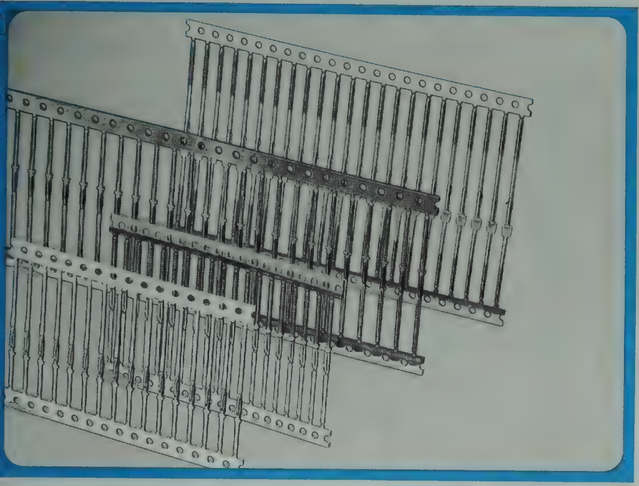
Summary The C-Press contact conforms to the applicable requirements of MIL-STD-2166 and MIL-C-28859 for compliant pin electrical connections.

These are general guidelines. For specific information, please refer to product data sheet.

While the information furnished is believed to be accurate and reliable, it is not offered as a product specification.

All data is subject to change without notice.

C-Press Signal Pins



FM - .100″ Centers (0.25″ Sq. Post)
FA - .100″ Centers (0.23″ Sq. Post)
FC, WB - .125″ Centers (0.25″ Sq. Post)
FP - .150″ Centers (0.25″ Sq. Post)

C-Press compliant pins provide high retention and low insertion forces without soldering and damaging plated through-holes. Available on .100″, .125″ and .150″ centers, pins may be ordered in various lengths and selective platings. Pins can be purchased in comb configuration with number of pins determined by customer, or on reels of 30,000 pins per reel.

The .025″ and .023″ square tails on the pins are excellent for both wire wrap interconnections or connectorizing when I/O requirements are necessary.

C-Press compliant pins are removable and replaceable. Repair tools are available.

Specifications

ELECTRICAL CHARACTERISTICS:

CONTACTS

Material:	Copper Alloy 725
Plating:	Consult Sales Dept.
Current Rating:	1 amp @ 70°C. 3 amps @ 20°C.
Contact Resistance:	2 Milliohms (max.) Pin to P.T.H.
Insertion Force (Compliant Area):	40 lbs. or less, individual pin
Retention Force (Compliant Area):	10 lb. minimum, individual pin *(Feed-On, Feed-Thru Pins Only)* 7 lb. minimum, individual pin *(Flat-Top Pins Only)*

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4
FM	◺	R/S**	-△

Step 4

Plating:
Consult Sales Dept.
for Options.

Step 3

Packaging:
S** = Comb
** = No. of Contacts/Comb
10 thru 100 Available
R = On Reel
30,000 Contacts/Reel

Step 2

Type of Contact:
T# = Feed-Thru
O# = Feed-On
F# = Flat-Top

Step 1

Series Code:
FM = .100 Centers
FA = .100 Centers (.023 Sq. Post)
FC = .125 Centers
FP = .150 Centers

C-Press Signal Pins

T = Feed-Thru

Wire Wrap Tails Above and Below PCB Wiring Side.

FM Series .100 Centers

T#	"A" Dim.	"B" Dim.	"C" Dim.
T1	.665	.335	.494
T2	.712	.385	.544
T3	.652	.398	.557
T4	.727	.385	.544
T5	.700	.454	.613
T6	.536	.454	.613
T7	.846	.454	.613
T8	.173	.335	.494
T9	.175	.454	.613
T10	.513	.410	.689

FA Series .100 Centers (.023" Sq. Post)

T#	"A" Dim.	"B" Dim.	"C" Dim.
T2	.497	.775	.934
T3	.497	.696	.855

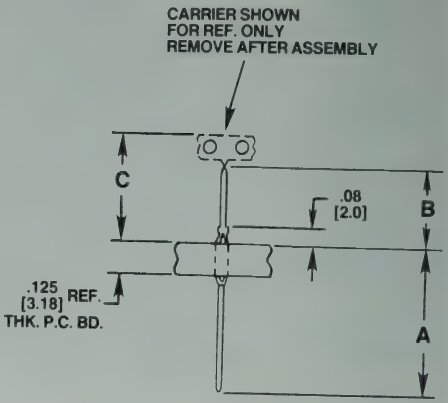
FC Series .125 Centers

T#	"A" Dim.	"B" Dim.	"C" Dim.
T1	.665	.335	.494

FP Series .150 Centers

T#	"A" Dim.	"B" Dim.	"C" Dim.
T3	.610	.520	.679

FM .100" Centers/FA .100" Centers
FC .125" Centers/FP .150" Centers



O = Feed-On

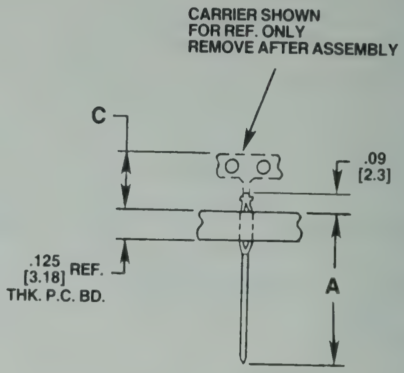
Wire Wrap Tail On Wiring Side. Push Shoulder Remains After Carrier Removed.

FM Series .100 Centers

O#	"A" Dim.	"C" Dim.
O1	.665	.494
O2	.610	.269
O3	.665	.269

FA Series .100 Centers (.023" Sq. Post)

O#	"A" Dim.	"C" Dim.
O1	.497	.855



F = Flat-Top

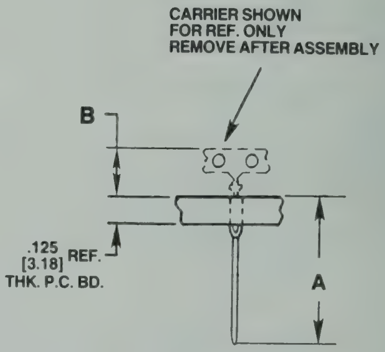
Wire Wrap Tail On Wiring Side. Push Shoulder Removed With Carrier.

FM Series .100 Centers

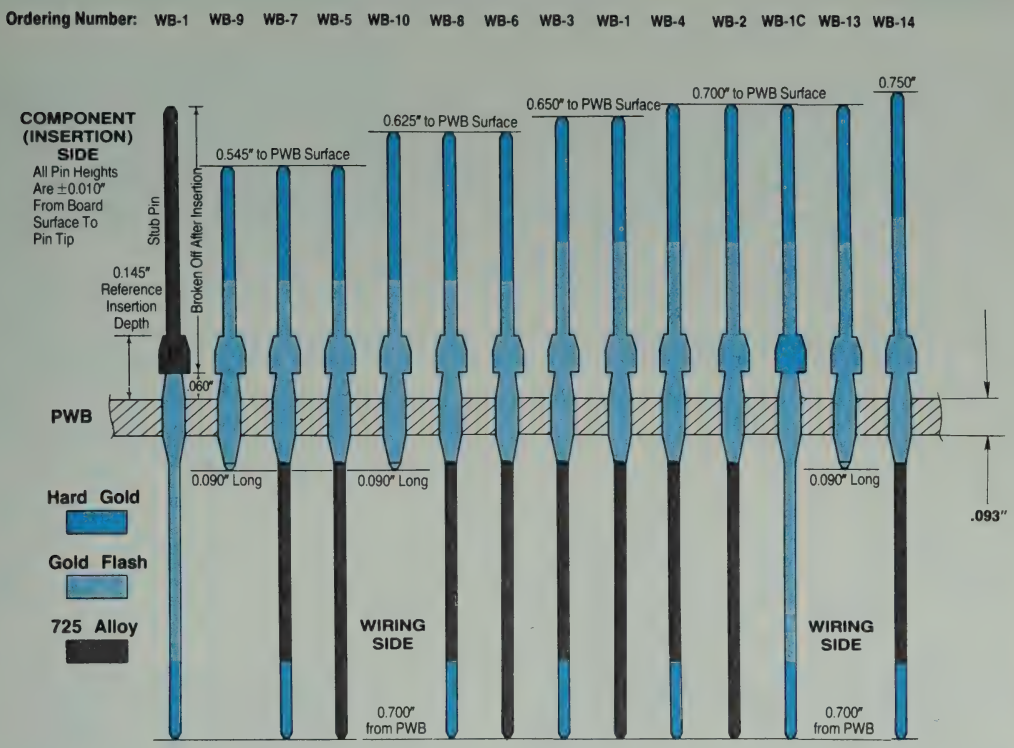
F#	"A" Dim.	"B" Dim.
F1	.790	.269
F2	.665	.269
F3	.236	.269

FC Series .125 Centers

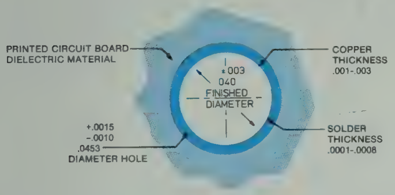
F#	"A" Dim.	"B" Dim.
F4	.790	.479

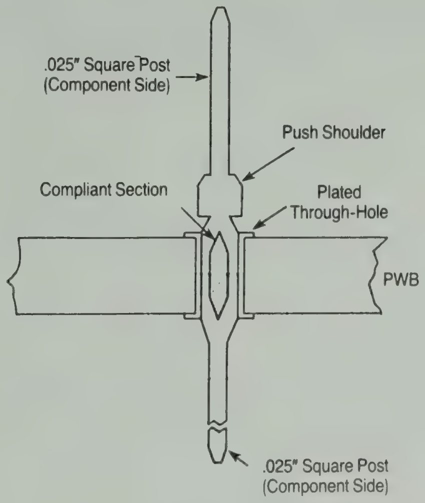


WB SERIES .125" CENTERS


Ordering Number: WB-1 WB-9 WB-7 WB-5 WB-10 WB-8 WB-6 WB-3 WB-1 WB-4 WB-2 WB-1C WB-13 WB-14
COMPONENT (INSERTION) SIDE
All Pin Heights Are ±0.010" From Board Surface To Pin Tip
Stub Pin
Broken Off After Insertion
0.145" Reference Insertion Depth
.060"
0.545" to PWB Surface
0.625" to PWB Surface
0.650" to PWB Surface
0.700" to PWB Surface
0.750"
PWB
0.090" Long
0.090" Long
0.090" Long
.093"
Hard Gold
Gold Flash
725 Alloy
WIRING SIDE
0.700" from PWB
WIRING SIDE
0.700" from PWB

HOLE SIZE REQUIREMENTS

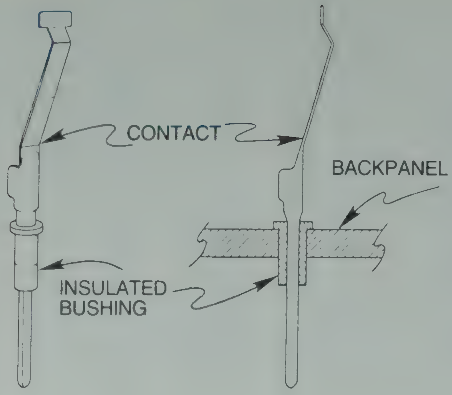

PRINTED CIRCUIT BOARD DIELECTRIC MATERIAL
COPPER THICKNESS .001-.003
±.003
.040
FINISHED DIAMETER
+.0015
-.0010
.0453
DIAMETER HOLE
SOLDER THICKNESS .0001-.0008


.025" Square Post (Component Side)
Push Shoulder
Compliant Section
Plated Through-Hole
PWB
.025" Square Post (Component Side)

COMPLIANT SIGNAL PINS,
Standard Diameter P.T.H.

1. Hole drilled to $.0453^{+.0015}_{-.001}$ diameter.
2. Plating thickness must be .001 to .003 copper and .0001 to .0008 solder.
3. Final hole dimension must be gaged to .040±.003 diameter.

Isolation Contacts for Edgecard



Series 102

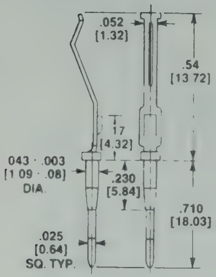
On Edgecard connectors, Winchester Electronics offers the ability to isolate a plated through-hole from the printe circuit board. This is accomplished by isolating the compliant or press-fit section of the contact with an isolation sleeve, thereby eliminating any electrical connection to the plated through-hole. Isolation pins are typically used to alter the interconnection pattern on a backplane or repair a defective plated through-hole.

C-PRESS ISOLATION CONTACT

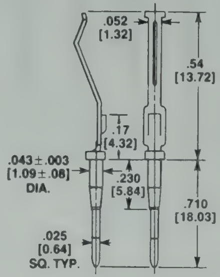
Electrically isolates contact from backpanel. Used whe backpanel contains a short or for circuit change.

Contact is inserted and wire wrapped to proper point.

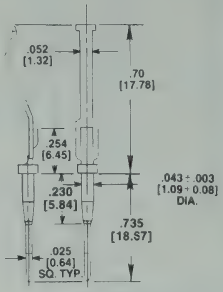
NOTE: For application to board, refer to instruction sheet shipped with each lot.



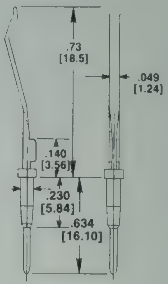
NK, MK, NJ, MJ, (E-Grid)
CAT. NO. 102E41192 (Shown)



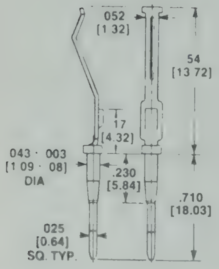
NK, MK, NJ, MJ (C-Grid)
CAT. NO. 102C41192 (Shown)



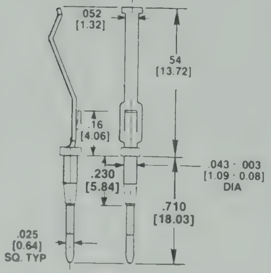
MF SERIES
CAT. NO. 102B111192
(Shown)



276 SERIES
CAT. NO. 102B131192
(Shown)



HE, NK, MK, NJ, MJ (D-Grid)
CAT. NO. 102D41192
(Shown)



NK, NJ (A-Grid)
CAT. NO. 102A41192
(Shown)

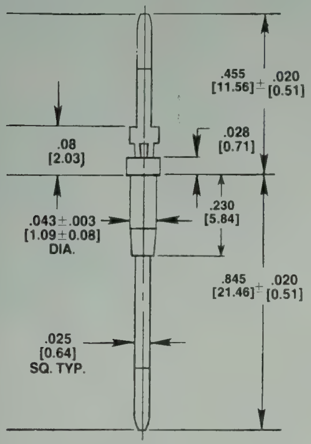
All Edgecard isolation contacts are plated with .000050″ nickel underplate and .000030″ gold in the contact area with .000050″ to .000100″ solder plating on the compliant section and tail.

After installation in your backplane, the tails may be clipped to conform to existing tail lengths on your backplane.

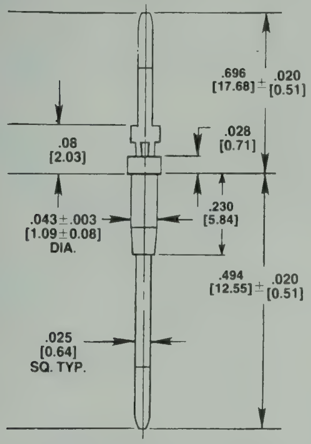
C-PRESS ISOLATION CONTACT

Electrically isolates contact from backpanel. Used when backpanel contains a short or for circuit change.

Contact is inserted and wire wrapped to proper point.



Catalog No. 103A111372 (Shown)
This contact is selectively plated with .000040" nickel underplate and .000030" gold on upper post, Au flash between and .000015" Au on tail. (Consult sales for plating zone lengths.)



Catalog No. 103A81541 (Shown)
This contact is selectively plated with .000040" nickel underplate and .000030" gold on each post and Au flash between. (Consult sales for plating zone lengths.)

Series 103

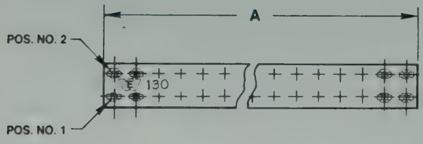
On signal pins, Winchester Electronics offers the ability to isolate a plated through-hole from the printed circuit board. This is accomplished by isolating the compliant or press-fit section of the contact with an isolation sleeve, thereby eliminating any electrical connection to the plated through-hole. Isolation pins are typically used to alter the interconnection pattern on a backplane or repair a defective plated through-hole.

NOTE: For application to board, refer to instruction sheet shipped with each lot.

Optional contact configurations are available. Please consult with our sales department for availability. Parts shown are recognized as Winchester Electronics standard product.

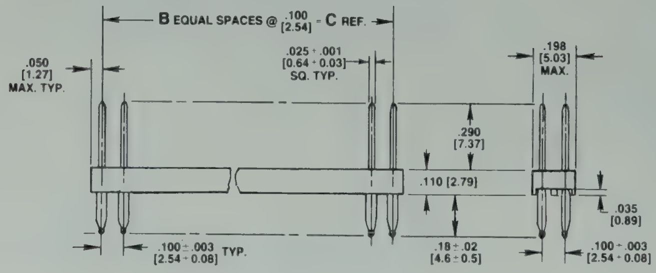
After contacts have been installed, the tails may be clipped to conform to your existing mating dimension.

.100" x .100" Grid C-Press Strip Header



Series 130, .100" x .100" Grid

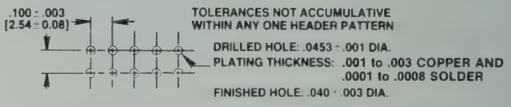
Series 130 C-Press Strip Header allows you to gang load two rows of signal pins quickly and easily. The C-Press contact's .025" square post facilitates interconnection with flat cable and discrete wire socket connectors as well as .025" square post wire wrapping applications. Available in dual lengths of 5 thru 50.



Dimensions

Catalog No.	A	B	C REF.
130-D05-	.498 [12.65]	04	.400 [10.16]
130-D50-	4.998 [126.95]	49	4.900 [124.46]

To determine dimensions not shown in chart, each additional contact pair position added to positions shown increases dimensions by .100" [2.54].


.100 ± .003 [2.54 ± 0.08]
TOLERANCES NOT ACCUMULATIVE WITHIN ANY ONE HEADER PATTERN
DRILLED HOLE: .0453 ± .001 DIA.
PLATING THICKNESS: .001 to .003 COPPER AND .0001 to .0008 SOLDER
FINISHED HOLE: .040 ± .003 DIA.

P.C. BOARD HOLE LAYOUT

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

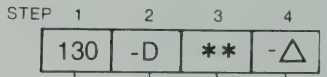
Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O *Color:* Black
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.

CONTACTS

Material:	Copper Alloy 725
Plating:	Selective plating. Consult Sales Dept. for options.
Current Rating:	1 amp @ 70° C. 3 amps @ 20° C.
Contact Resistance:	2 Milliohms (max.) Pin to P.T.H.
Insertion Force (Compliant Area):	40 lbs. or less, individual pin
Retention Force (Compliant Area):	10 lbs. minimum, individual pin

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1
Series Code:
Series 130

Step 2
Row of Contacts:
D = Dual Row

Step 3
No. of Contacts:
5 thru 50 Per Row

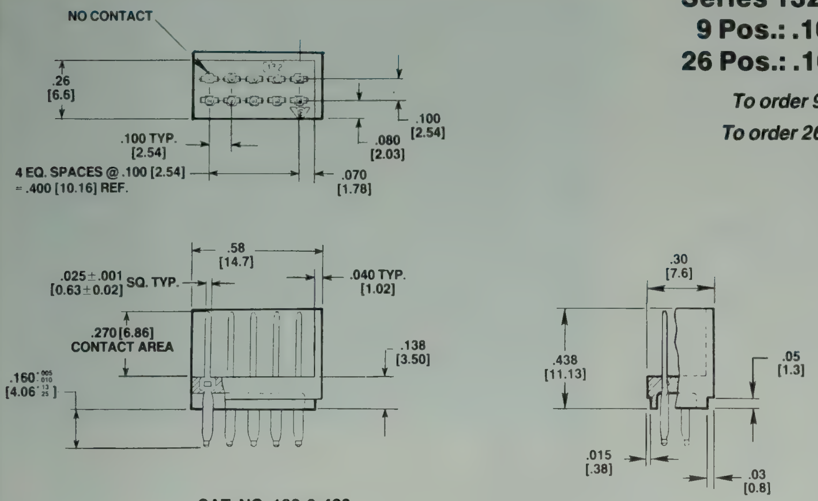
Step 4
Plating:
428 = Gold Over Nickel
On Contact Area
Solder On Tail

(Consult sales for additional plating options)

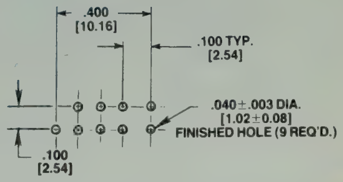
Series 132
9 Pos.: .100" x .100" Grid (2 sides)
26 Pos.: .100" x .100" Grid (3 sides)

To order 9 Pos. specify P/N 132-9-428

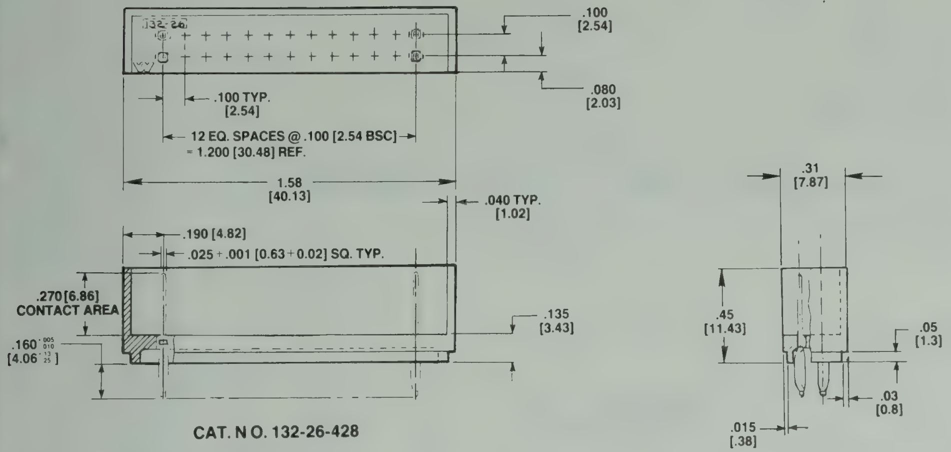
To order 26 Pos. specify P/N 132-26-428



CAT. NO. 132-9-428



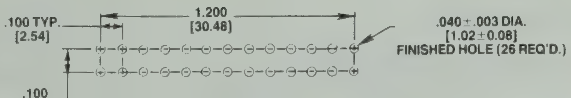
P.C. BOARD HOLE PATTERN



CAT. NO. 132-26-428

Specifications

ELECTRICAL CHARACTERISTICS:



P.C. BOARD HOLE PATTERN

INSULATORS

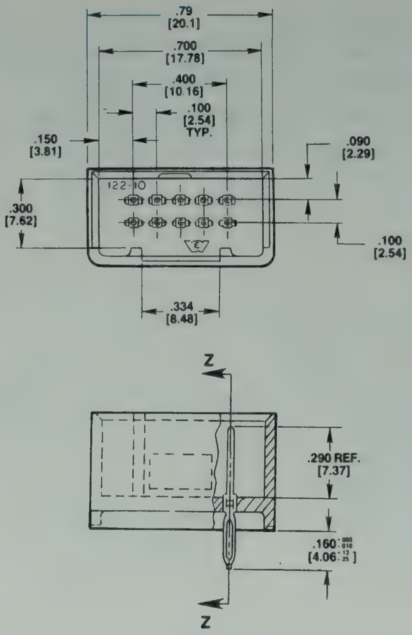
Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O *Color:* White
Insulation Resistance:	5,000 Megohms (min.)

CONTACTS

Material:	Copper Alloy 725
Plating:	Gold over Nickel on contact area Tin Lead plate on tail
Current Rating:	1 amp at 70° C. 3 amps at 20° C.

122 Series

10 pos .100" x .100" Grid Pin Cup Header

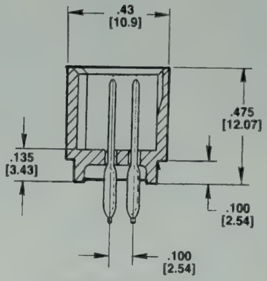


CAT. NO. 122-10-428

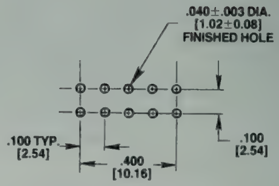
Series 122
10 Pos.: .100" x .100" Grid

To order specify P/N 122-10-428

Gold plating in mating area with solder plating on C-Section.



SECTION Z-Z



P.C. BOARD HOLE PATTERN

Two Position Jumper .100" Centerline Grid

Series 121

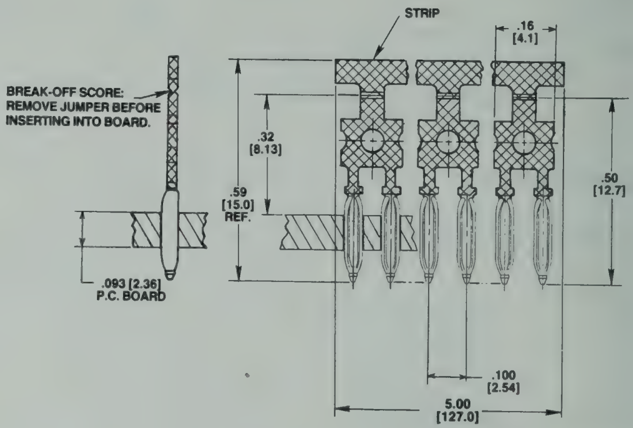
This Two Position Jumper is easily installed for switching in your backplane. When inserted, your switch is normally closed; when removed from the backplane, the switch is open.

To order specify P/N 121-23999-25
(25 Jumpers per strip)

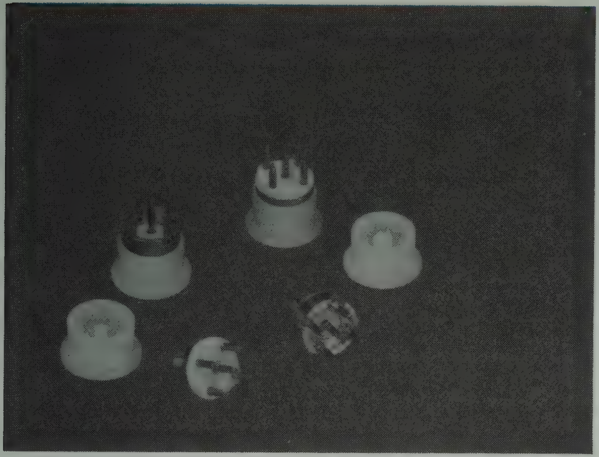
Specifications

ELECTRICAL CHARACTERISTICS:

Material:	Copper Alloy 725
Plating:	Solder
Insulation:	Teflon Coated
Insulation Dielectric Withstanding Voltage:	500 VAC min.

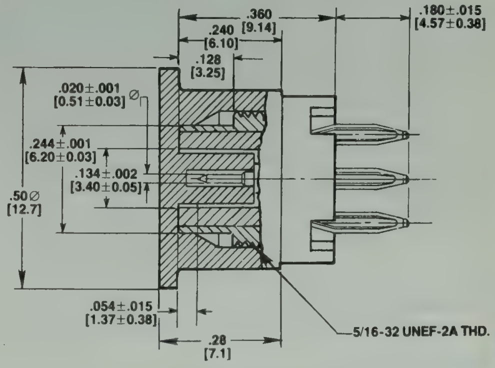


CAT. NO. 121-23999-25



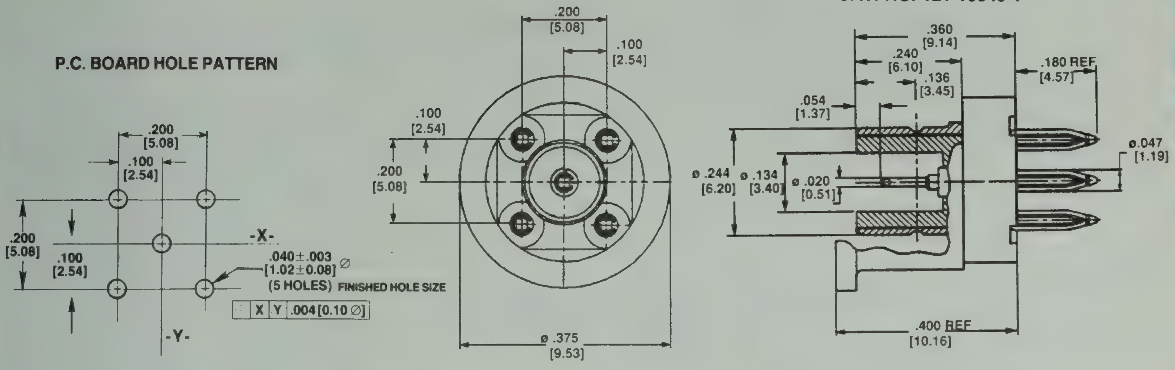
Series 121, 50 and 75 Ohm

These 50 and 75 Ohm coaxial connectors are easily inserted into your Printed Circuit Board using a combination dust cover insertion tool. Solder is eliminated and a dependable press-fit connection is made.

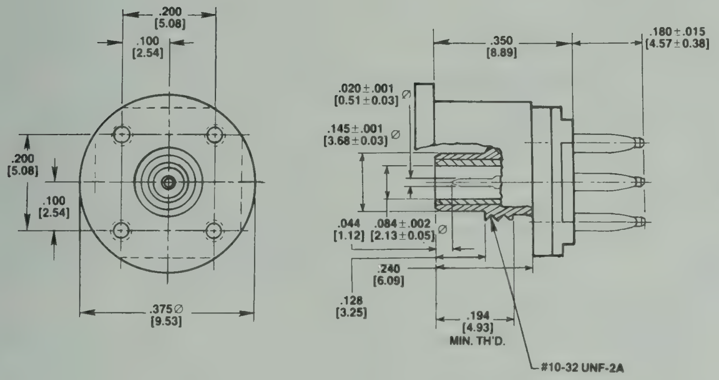


CAT. NO. 121-10349-1

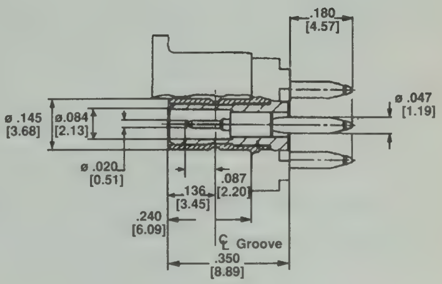
P.C. BOARD HOLE PATTERN



CAT. NO. 121-14165-1



CAT. NO. 121-23979



CAT. NO. 121-27341-1

50 OHM, SMB, SMC Type, Jack
121-23979 (SMC Type)
121-10302 (SMB Type)

Material: Body - Brass per QQ-B-620 half hard
Insulator - Teflon per MIL-P-19468

Finish: Center contacts mating area shall be gold plated to a minimum thickness of 0.0001 inch in accordance with MIL-G-45204 Type 1 Grade C. All other metal parts shall be finished to provide a connector which meets the corrosion requirements as called out in this specification.

Electrical: Impedance: 50 Ohms nominal
Frequency: 0 to 4 GH$_z$
Insulation Resistance:
1,000 Megohms (min.)

Dielectric Withstanding Voltage: The magnitude of the test voltage shall be 1,000 volts rms at sea level.

Voltage Standing Wave Ratio (VSWR): (SMB) From dc to 4 GH$_z$ the VSWR shall not exceed 1.3 & .04 (f) where f is the frequency in Gigahertz (GH$_z$).
(SMC) From dc to 10 GH$_z$ the VSWR shall not exceed 1.25 & .04 (f) where f is the frequency in Gigahertz (GH$_z$).

R.F. Leakage: (dB) Min. @ 2 to 3 GH$_z$
SMB: 55 SMC: 60

Insertion Loss: (dB) Max.
SMB @ 1.5 GH$_z$ .30
SMC @ 4.0 GH$_z$ .25

Mating Characteristics: Interface design per MIL-C-39012 and interchangeable with other manufacturers.

Connector Durability: The connector to be tested and its mating connector shall be subjected to 500 insertion and withdrawal cycles at 12 cycles per minute. The connector shall show no evidence of mechanical failure and the connector shall meet the mating characteristic requirements.

Environmental Vibration: (SMB) Specification MIL-STD-202, method 204, test condition B
(SMC) Specification MIL-STD-202, method 204, test condition D

Shock: (SMB) Specification MIL-STD-202, method 213, test condition B
(SMC) Specification MIL-STD-202, method 213, test condition C

Corrosion (salt spray): Specification MIL-STD-202, method 101, test condition B

Corona Level: The connector shall not exhibit breakdown (corona) when 190 volts rms is applied and the altitude is 70,000 feet.

Contact Resistance: The center contact resistance drop shall not exceed 2.5 milliohms and the outer contact resistance drop shall not exceed 2.0 milliohms.

75 OHM, SMB, SMC Type, Jack
121-14165 (SMB Type)
121-10349 (SMC Type)

Material: Body - Brass per QQ-B-620 half hard
Insulator - Teflon per MIL-P-19468

Finish: Center contacts mating area shall be gold plated to a minimum thickness of 0.0001 inch in accordance with MIL-G-45204 Type 1 Grade C. All other metal parts shall be finished to provide a connector which meets the corrosion requirements as called out in this specification.

Electrical: Impedance: 75 Ohms nominal
Frequency: 0 to 2 GH$_z$
Insulation Resistance:
1,000 Megohms (min.)

Dielectric Withstanding Voltage: The magnitude of the test voltage shall be 2,000 volts rms at sea level.

R.F. Leakage: (dB) Min. @ 2 to 3 GH$_z$
SMB: 55 SMC: 60

Insertion Loss: (dB) Max.
SMB & SMC @ 1.5 GH$_z$ .30

Mating Characteristics: Interface design per MIL-C-39012 and interchangeable with other manufacturers.

Connector Durability: The connector to be tested and its mating connector shall be subjected to 500 insertion and withdrawal cycles at 12 cycles per minute. The connector shall show no evidence of mechanical failure and the connector shall meet the mating characteristic requirements.

Environmental Vibration: (SMB) Specification MIL-STD-202, method 204, test condition B
(SMC) Specification MIL-STD-202, method 204, test condition D

Shock: (SMB) Specification MIL-STD-202, method 213, test condition B
(SMC) Specification MIL-STD-202, method 213, test condition C

Corrosion (salt spray): Specification MIL-STD-202, method 101, test condition B

Corona Level: The connector shall not exhibit breakdown (corona) when 190 volts rms is applied and the altitude is 70,000 feet.

Contact Resistance: The center contact resistance drop shall not exceed 2.5 milliohms and the outer contact resistance drop shall not exceed 2.0 milliohms.

BNC Coax Connector

Part Number 121-13305-1

The new C-Press 75 OHM BNC connector does not require soldering to the printed circuit board. The connector is pressed into the PCB using an installation tool provided by Winchester Electronics. This BNC connector combines the use of our C-Press compliant contacts and drive screws to allow low insertion force into the PCB as well as high retention force to the printed circuit board.

This patented drive screw design allows the drive screw to screw freely into the hole but prevents it from spinning out of the hole when the mated connector and cable is tugged or pulled on. The result is a connector that meets or exceeds 100 lbs. minimum retention.

C-Press BNC connectors can be removed from the P.C.B. using a drive screw knockout tool and connector removal tool available from Winchester Electronics. Removal and replacement of these connectors is a cost effective, quick and easy process.

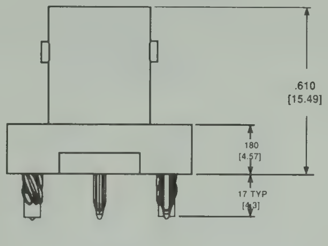
These connector features combine to offer significant advantages in reliability, assembly, repairability and cost over other soldered in or press fit BNC connectors.

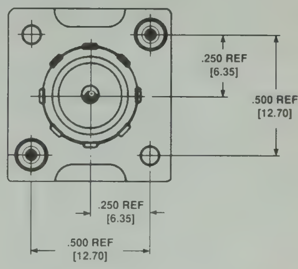
Specifications

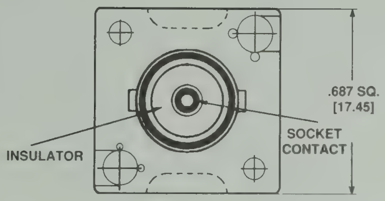
This connector meets the mechanical and electrical intermating requirements for class 2 coaxial connectors per Mil-C-39012.

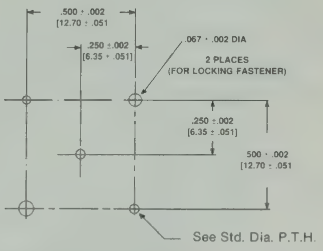
Connector Insertion Tool - 107-43184
Connector Removal Tool - 107-43185
Drive Screw Knockout Tool - 107-43186

Impedance:
75 ohms commercial.
Voltage rating:
500 VAC, RMS @ sea level.
VSWR:
Less than or equal to 1.15 (return loss better than 23.0dB).
RF Leakage:
-55 dB @ 2GHZ.
Frequency range:
0 to 4GHZ.
Practical Frequency range:
0 to 2GHZ.
Center contact:
20 milliohms max. @ 1 amp.
Outer contact:
1.5 milliohms max @ 1 amp.
Insulation resistance:
5000 megohms min. @ 500 V DC.
Insertion loss:
.3dB max. @ 2GHZ
Center contact insertion force:
2 lbs. max. with a .054" dia. steel pin.
Center contact withdrawal force:
2 oz. min. with a .052 dia. steel pin.
Temperature range:
-55°C to +125°C.
Connector insertion force:
500 lbs. max.
Connector removal force:
100 lbs. min.
Packaging is anti-static.

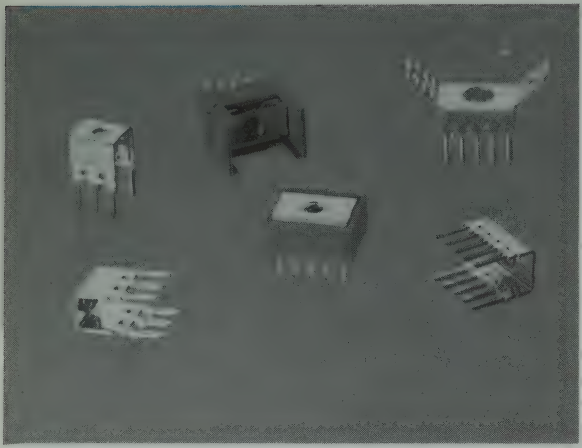








BNC Body	Zinc die cast	150 microinches min. nickel over 200 microinches min. copper
Contact Socket	Beryllium Copper	50 microinches min. gold over 150 microinches min. nickel over 10 microinches max. copper plating
Insulator, Front	Teflon	
Insulator, Rear	Teflon	
Insert	Brass	100 microinches min. tin-lead over 100 microinches min. copper plate
Fastener, Locking	Stainless steel	Passivated
Contact, C-Press·	Copper, Nickel, Tin	100 microinches min. tin-lead over 50 microinches min. nickel



Series 121
6 Pin: .125″ x .250″ Grid
10 Pin: .100″ x .300″ Grid

Winchester Electronics offers you a cost effective, reliable method to get power to your printed circuit board without soldering.

C-Press compliant pin power terminals can be removed from the board and replaced with a virgin power terminal with no loss of contact reliability. Assembly is easy. Tools are available.

An insulator is available to shield the terminal from adjacent components. An isolator is available to prevent shorting across the top of the terminal.

Specifications

ELECTRICAL CHARACTERISTICS:

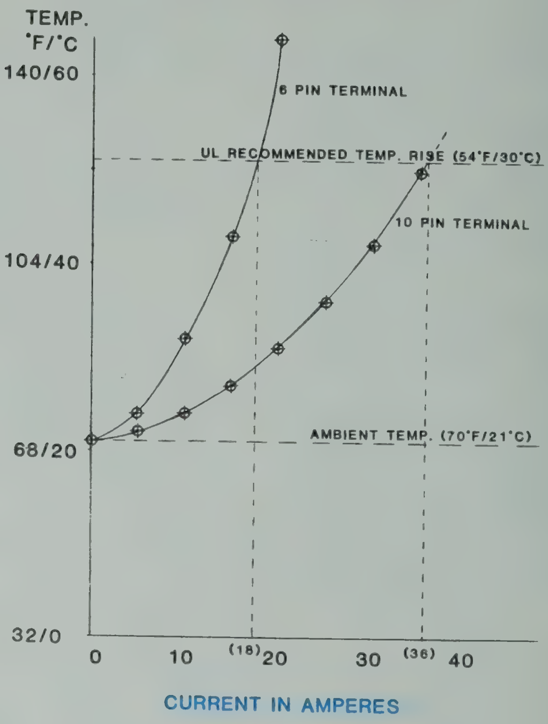
CONTACTS

Material:	Copper Alloy 725
Plating:	Tin Lead
Current Rating:	See Chart
Contact Resistance:	2 Milliohms (max.)
Insertion Force:	240 lbs. max - 6 pin 400 lbs. max - 10 pin
Retention Force:	48 lbs. min - 6 pin 80 lbs. min - 10 pin
Thread Torque:	#4-40 Thread - 8 in.-lbs. max. #6-32 Thread - 8 in.-lbs. max.

INSULATORS

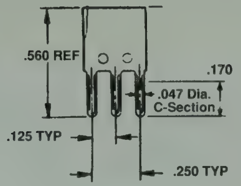
Material:	Polyester Thermoplastic Glass Reinforced, UL Rated 94 V-O
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° C. to +105° C.

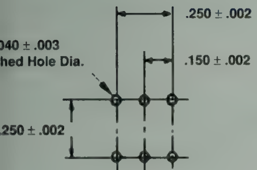
TEMPERATURE VS. CURRENT



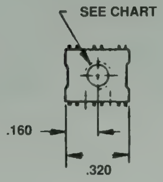
Power Terminals

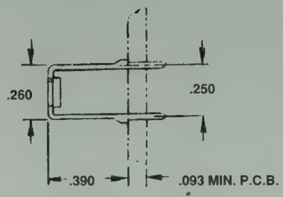
6 PIN

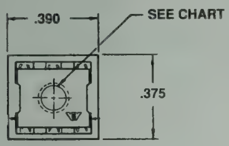


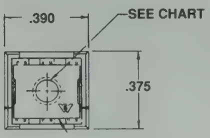


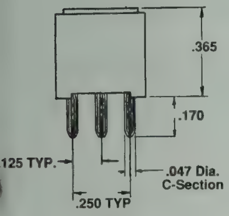
P.C. Board Hole Pattern



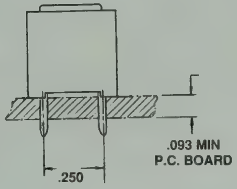


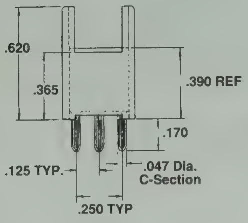




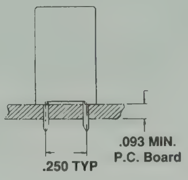


121-27296-1
WITH INSULATOR





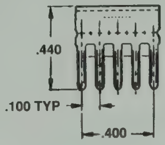
121-27295-1
WITH ISOLATOR

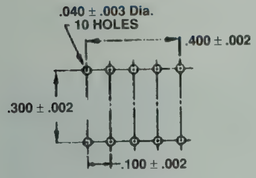


Ordering Chart - 6-PIN

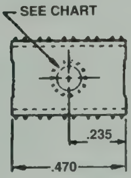
Catalog No.	Description
121-14207	Terminal only 6/32 thd.
121-14207-1	with 6/32 thd. screw packed separately *
121-14208	with 4/440 thd. screw packed separately *
121-14208-1	Terminal only 4/40 thd.
121-27295-1	with isolator 4/40 thd.
121-27295-2	with isolator 6/32 thd.
121-27295-3	with isolator 4/40 thd. screw packed separately *
121-27295-4	with isolator 6/32 thd. screw packed separately *
121-27296-1	with isulator 4/40 thd.
121-27296-2	with isulator 6/32 thd.
121-27296-3	with isulator 4/40 thd. screw packed separately *
121-27296-4	with insulator 6/32 thd. screw packed separately *

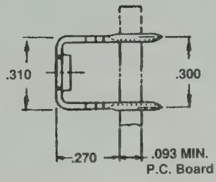
10 PIN





P.C. Board Hole Pattern

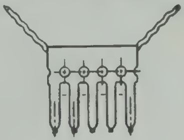


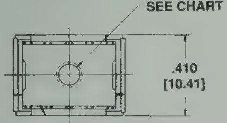


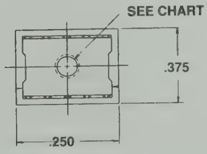
Ordering Chart - 10-PIN

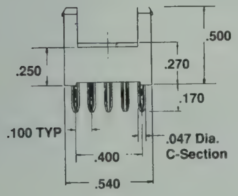
Catalog No.	Description
121-27239	Terminal only 6/32 thd.
121-27239-1	with 6/32 thd. screw packed separately *
121-14204	with insulator 6/32 thd.
121-14204-1	with insulator 6/32 thd. screw packed separately *
121-14205	with isolator 6/32 thd.
121-14205-1	with isolator 6/32 thd. screw packed separately *
121-24539	with fast on tabs

10 Pin Power Terminal
With Quick Disconnect Tabs Available.
Cat. No. 121-24539

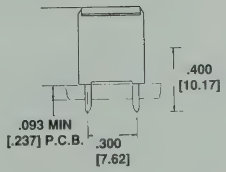


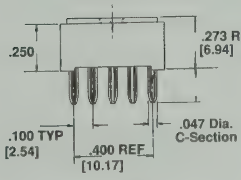




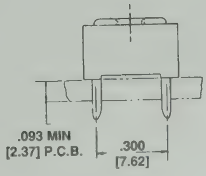


121-14205
WITH ISOLATOR

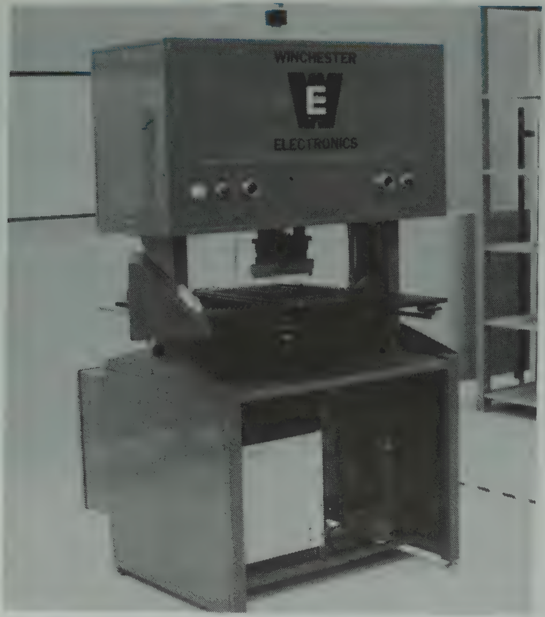




121-14204
WITH INSULATOR



Insertion & Assembly Machines



Upgradeable Designs Protect Your Investment and Help Keep Pace with Production Requirements.

Winchester Electronics will take you step-by-step into high volume production. We offer a broad line of connector insertion machines that can be upgraded as your volume increases.

Our ten ton air over oil booster system is used on all machine types. Starting with a basic operator controlled machine, an indexing table is added for fast and accurate positioning of tool head to connector. We also offer a connector insertion machine with computerized table movement which is upgradeable to fully automatic.

Winchester Electronics application engineers are prepared to advise you on the best machine to meet your production needs, as well as upgrade your system as volume increases. You can also be assured that we will continue to work with your manufacturing department by training personnel and helping to debug your assembly process until we are confident you are ready for production.

Our microprocessor controlled automatic insertion machine can store up to ten programs. It is easily programmed and features an RS 232 Buss.

Winchester Electronics offers an upgradeable connector insertion machine that will take you from a manual X-Y axis motion to a computer controlled X-Y axis motion.

Manual X-Y Insertion Machine

20 ton capacity.

Operator controlled.

Part Number ***107-43150***

Manual X-Y with Mechanical Indexing

Used with 107-43150 machine.

20 ton capacity.

Operator controlled.

Part Number ***107-43155 (indexing kit)***

Computer Controlled Table Movement

20 ton capacity. Head moves manually

Pin tip locator for pin loading.

Part Number ***To be advised A.R.O.***

Automatic X-Y Axis Movement

20 ton capacity.

Board sensing.

Part Number ***107-42497***

Edgecard Tooling

SERIES	CONNECTOR SEATING		SINGLE INSERTION	SINGLE KNOCK-OUT	BROKEN PIN KNOCK-OUT	HOUSING REMOVAL		REPLACEMENT BLADES
	* LONG	** SHORT				LONG	SHORT	
NKA	107-42223	107-42222	107-42188	107-42031	107-42120	107-42123	107-42292	107-42110
NJA	107-42396	107-42395	107-42188	107-42031	107-42120	107-42123	107-42292	107-42110
MK/NK C	107-42457	107-42456	107-42177	107-42031	107-42002	107-10931	107-42091	107-42110
MJ/NJ C	107-42109	107-42108	107-42177	107-42031	107-42002	107-10931	107-42091	107-42110
MK/NK D	107-10727	107-10766	107-42140	107-42031	107-42004	107-10931	107-42091	107-0190-13
MJ/NJ/ D	107-42134	107-42133	107-42140	107-42031	107-42004	107-10931	107-42091	107-42130
MK/NK E	107-42248	N/A	107-42148	107-42031	107-25882	107-10931	107-42091	107-42147
MJ/NJ E	107-42146	107-42145	107-42148	107-42031	107-25882	107-10931	107-42091	107-42147
MF 36	107-10833	N/A	107-42633	107-42031	107-42047	107-10832	N/A	107-42116
MF 18	107-42085	N/A	107-42633	107-42031	107-42047	107-42070	N/A	107-42116
HE D	107-42502	107-42501	107-42140	107-42031	107-42004	107-10931	107-42091	107-42130
HE C	107-42460	107-42459	107-42177	107-42031	107-42002	107-10931	107-42091	107-42110
276	107-10722	N/A	107-42554	107-42031	107-42047	107-10716	N/A	107-42100
.360 wide	107-43275	107-43267	107-43331	107-42031	107-42002	107-43270	107-43269	107-43273

* Long tool A, C, and D grid expandable up to 66 dual positions.
* Long tool for E grid expandable up to 44 dual positions.
** Short tool A, C, and D grid expandable up to 33 dual positions.
** Short tool for E grid expandable up to 22 dual positions.
107-43267 (up to 40 positions)
107-43275 (up to 61 positions)

Series 78/79 Tooling

No. of POSITIONS	CONNECTOR SEATING	SINGLE INSERTION	SINGLE KNOCK-OUT	HOUSING REMOVAL	BROKEN PIN KNOCK-OUT
10	107-10864	ALL TAILS 107-42698	107-42098	107-42379	N/A
14	107-42127		"	"	"
16	107-42005		"	"	"
20	107-42006		"	107-42623	"
26	107-42007		"	"	"
34	107-42008		"	107-42648	"
40	107-42009		"	"	"
50	107-42010		"	107-43284	"
60	107-42011		"	"	"
64	107-42128		"	"	"

Note: All single insertion, knock-out, and broken pin repair tooling are to be used in conjunction with impact handle P/N 107-42055

Tooling

Series 89/189 Tooling

No. of POSITIONS	CONNECTOR SEATING	HOUSING REMOVAL	SINGLE INSERTION	SINGLE KNOCK-OUT
9 Sock.	107-10894	107-10895	107-42064	107-42390
15 Sock.	107-42021	″	″	″
25 Sock.	107-42022	107-10883	″	″
37 Sock.	107-42023	″	″	″
50 Sock.	TBA	TBA	TBA	TBA
9 Pin	107-10882	107-10895	107-42063	107-42390
15 Pin	107-42024	″	″	″
25 Pin	107-42025	107-10883	″	″
37 Pin	107-42026	″	″	″
50 Pin	TBA	TBA	TBA	TBA

Series 84/184 & 88/188 Tooling

No. of POSITIONS	CONNECTOR SEATING	SINGLE INSERTION	SINGLE KNOCK-OUT		HOUSING REMOVAL	
			Series 84/184	Series 88/188	Series 84/88	Series 184/188
14 Recept.	107-10932 *	107-42036	107-42450	107-42244	107-25875	107-43065
24 Recept.	107-10933 *	″	″	″	″	″
36 Recept.	107-10934 *	″	″	″	107-25876	107-43066
50 Recept.	Dust Cover Insert Supplied.	″	″	″	″	″
14 Plug	107-25871 *	107-42035	″	″	107-25875	107-43065
24 Plug	107-25872 *	″	″	″	″	″
36 Plug	107-25873 *	″	″	″	107-25876	107-43066
50 Plug	Dust Cover Insert Supplied	″	″	″	″	″

* Dust Cover Insert Supplied.

Series FM/FC/FA/FP Tooling

SERIES	GANG (Short) INSERTION	GANG (Medium) INSERTION	GANG (Long) INSERTION	SINGLE INSERTION	SINGLE KNOCK-OUT	BROKEN PIN KNOCK-OUT
FMT	Up to 16 positions 107-42080	107-42078(32)	107-42076(50)	107-10795	107-42031	Consult Factory
FMO	107-42629(16)	107-42630(32)	107-42631(50)	Consult Factory	107-42031	Consult Factory
FMF	107-42629(16)	107-42630(32)	107-42631(50)	107-42632	107-42031	Consult Factory
FCT	107-42293(17)	107-42294(33)	107-42295(51)**	107-42297	107-42031	Consult Factory
FCF	107-42602(16)	107-42603(32)	107-42604(40)	107-42632	107-42031	Consult Factory
FAT	107-42056(16)	107-42057(32)	107-42058(50)	107-10795	107-42031	Consult Factory
FAO	107-42056(16)	107-42057(32)	107-42058(50)	107-10795	107-42031	Consult Factory
FPT	N/A	107-42607	N/A	N/A	107-42031	Consult Factory
WB	107-43070(23)	N/A	107-43072(61)	107-42051	107-42031	Consult Factory

**For loading combs up to 16, 32, and 50 positions.

Series 121
(Coax Terminals)

CONNECTOR CAT. NO	INSERTION TOOL	REMOVAL TOOL
121-10302	107-42181	107-10835
121-10349	107-42018	107-42015
121-14165	"	"
121-23979	107-42181	107-10835
121-13305-1	107-43184	107-43186/107-43185

Series 121
(2 Pos. Jumper)

CONNECTOR CAT. NO	INSERTION TOOL	REMOVAL TOOL
121-23999-25	107-42540	107-42544

Series 121
(Power Terminals)

CONNECTOR CAT. NO	INSERTION TOOL	REMOVAL TOOL
121-27295-1	107-42677	107-42678
121-27295-2	"	107-42503
121-27296-1	"	107-42678
121-27296-2	"	107-42503
121-14204*	107-42486	"
121-14205*	"	"
121-14207	107-42229	"
121-14208*	"	107-42489
121-24539	703-3007-000	N/A
121-27239*	107-42252	107-42504

* **Hand Held Impact Tool with Dracon Style Seating Available:**
107-42488 for 121-14204 and 14205 (used in conjunction with impact handle 107-42055 purchased separately)
107-42228 for 121-14208 - 107-42253 for 121-27239 (used in conjunction with impact handle 107-42055 purchased separately)

Series 132 Tooling

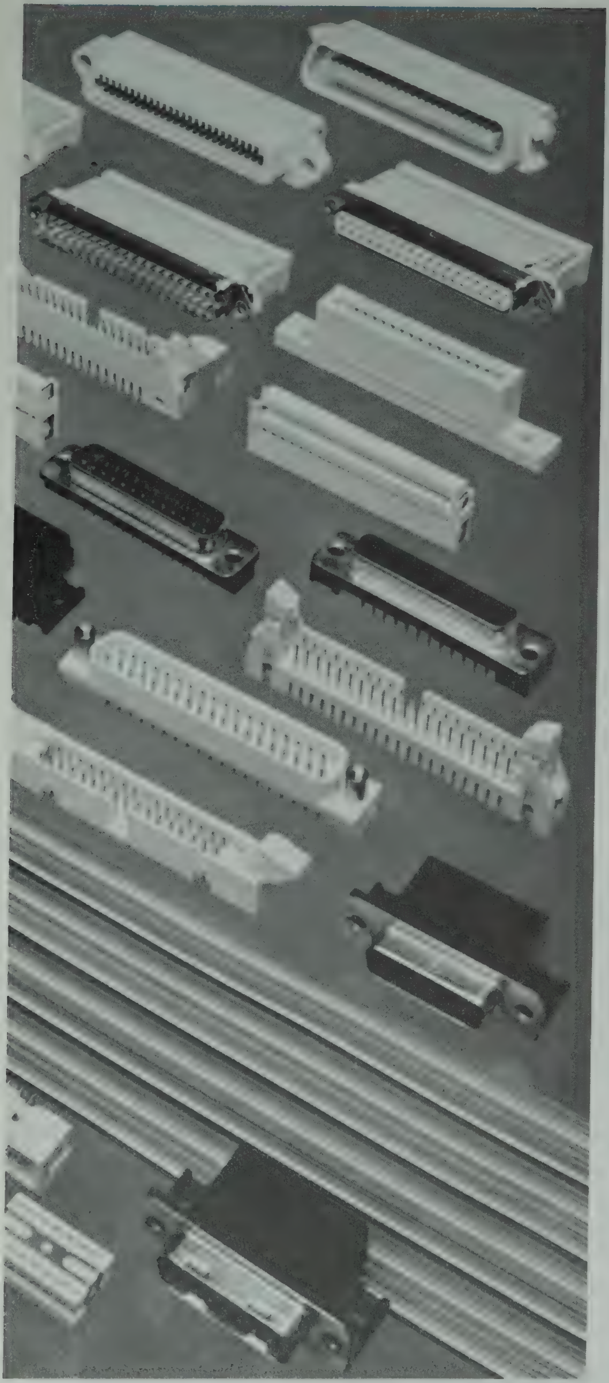
No. Pos.	CONNECTOR SEATING	HOUSING REMOVAL	SINGLE INSERTION	SINGLE KNOCK-OUT
26	107-42531	107-42534	107-42532	107-42533
9	107-42626	107-42627	"	"

Series 130 Tooling

CONNECTOR SEATING	HOUSING REMOVAL	SINGLE INSERTION	SINGLE KNOCK-OUT
Consult Sales	N/A	107-42675	107-42120

Note: All single insertion, knock-out, and broken pin repair tooling are to be used in conjunction with impact handle P/N 107-42055

Flex-Com® IDC System



Complete intermateability of connectors, cable and tooling with most major IDC lines on the market.

Low Profile DIP Series, engineered as the leading design in the industry, features a metal latch, pre-latch assembly, and strengthened contact pins.

An economical IDC Socket Header Replacement Connector.

A Right Angle Shielded D-Subminiature Series.

Shielded D-Subminiature Mass Termination Connectors to dampen EMI/RFI emissions.

Multiple Hardware Options.

Headers with optional plastic ejector latches or non-latching ejectors.

RS232 and RS449 Compatibility.

MIL-C-83503 Compatible. Straight or Right Angle Headers and Sockets. Three or Four-Sided Construction. Optional Snap-In Latches.

Broad variety of options and features on all Flex-Com Connectors.

Telecommunications Connectors.

Comprehensive, enlarged tooling line includes hand tools, arbor presses, pneumatic presses, accessory tools, and platens.

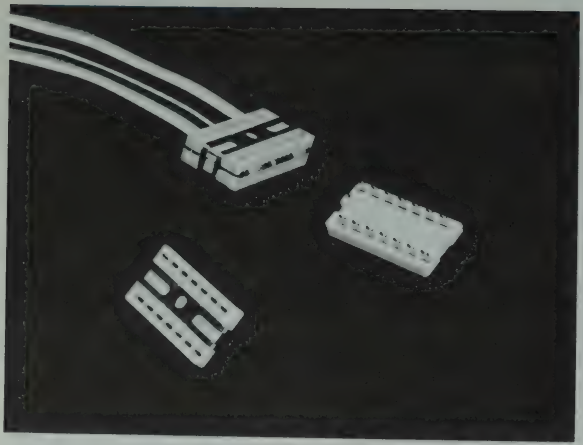
All connectors are UL listed.

Flex-Com® IDC System

PAGE NO.	SERIES	DESCRIPTION	GRID	CONTACTS
DIP CONNECTORS				
2	Series 71	IDC Low Profile DIP	.100" x .300"	14,16
3	Series 58	IDC Socket Header Replacement	.100" x .100"	10,14,16,20,26,34,40,50,60,64
4-5	Series 54	Transition Connector	N/A	10,16,20,26,34,40,50,60
PLUG CONNECTOR				
6-7	Series 68	Plug Connector	.100" x .100"	10,14,16,20,26,34,40,50,60
HEADER CONNECTORS WITH LATCH OPTIONS				
8-11	Series 85	MIL-Spec Compatible Rt. Angle & St. Header	.100"x.100"	10,14,16,20,26,34,40,50,60,64
8-11	Series 86	MIL-Spec Compatible Rt. Angle & St. Header	.100"x.100"	10,14,16,20,26,34,40,50,60,64
PIN CUP HEADER CONNECTORS				
12-13	Series 70	Pin Cup Header	.100" x .100"	10,14,16,20,26,34,40,50,60
14-15	Series 80	Pin Cup Header With Latch Options	.100" x .100"	10,14,16,20,26,34,40,50,60
SOCKET CONNECTORS				
16-17	Series 51	Standard Socket	.100" x .100"	10,14,16,20,26,34,40,50,60
16-17	Series 61	Low Profile Socket	.100" x .100"	10,14,16,20,26,34,40,50,60
18-19	Series 81	MIL-Spec Compatible Socket	.100" x .100"	10,14,16,20,26,34,40,50,60,64
EDGECARD CONNECTORS				
20-21	Series 33	IDC Edgecard	N/A	10,14,16,20,26,34,40,50,60,64
22-23	Series 53	Edgecard	N/A	10,16,20,26,30,34,40,44,50,60
D-SUBMINIATURE CONNECTORS				
24-26	Series 47	Right Angle Pin & Socket D-Sub	.109" x .112"	09,15,25,37,50
27-31	Series 147	Shielded Rt. Angle Pin & Socket D-Sub	.109" x .112"	09,15,25,37,50
32-39	Series 49	Pin & Socket D-Sub	.109" x .112"	09,15,25,37
32-39	Series 149	Shielded Pin & Socket D-Sub	.109" x .112"	09,15,25,37
40-41	Series 165	Vertical D-Sub With DIP Solder Tails	.109" x .112"	09,15,25,37
42-44	Series 167	Shielded Vertical Mount D-Sub	.109" x .112"	09,15,25,37
TELECOMMUNICATIONS CONNECTORS				
45-47	Series 106	PCB Telecom Plug & Receptacle	.085" x .169"	24,36,50
48-51	Series 166	Pre-Assembled Telecom Plug	.085" x .151" .085" x .160"	14,24,36,50
48-51	Series 166	Pre-Assembled Telecom Receptacle	.085" x .169" .085" x .160"	14,24,36,50
52-54	Series 266	Shielded Telecom Plug & Receptacle	.085" x .160"	24,36,50
55-58	Series 55	Cable		
59-62		Tools		

71 Series

.100" x .300" Grid IDC Low Profile DIP



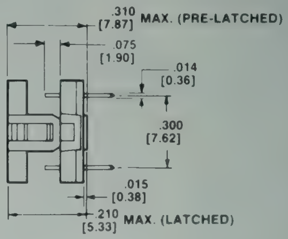
SERIES 71

.100" x .300" Grid
Metal Latches
14 or 16 Position
One-Step Assembly

Our new Low Profile DIP connector is designed for applications which require low height above the P.C. board.

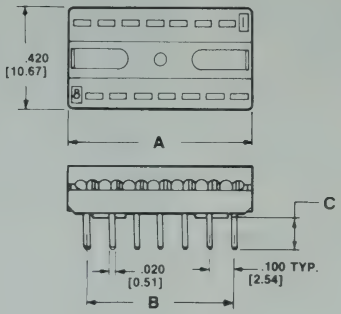
These space-saving Flex-Com connectors mate with standard 14 and 16 position IC sockets for quick and economical solderless connections. New Beryllium Copper contacts with blade style termination and insulated stainless steel latches provide on-the-job holding power.

Clips are vacuum coated with a high crystalline polymer that provides both corrosion resistance and dielectric protection.



Dimensions

CATALOG NO.	A	B
71-1314 71-1314-1	.762 [19.35]	.600 [15.24]
71-1316 71-1316-1	.862 [21.89]	.700 [17.78]



Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

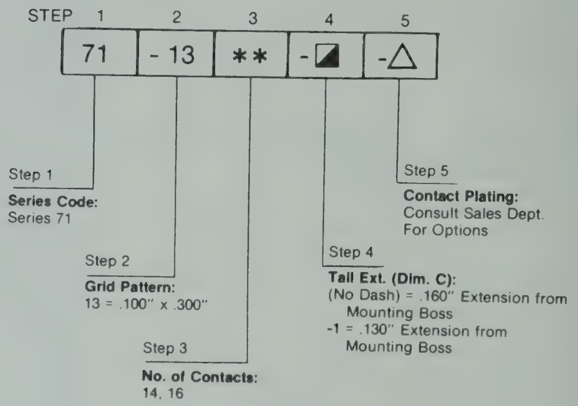
Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	> 5 x 10^6 ohms
Operating Temperature:	-55° to +105° C.
Clips:	Stainless Steel Dielectric Coated

CONTACTS

Material:	Beryllium Copper
Plating:	2 - 3μ Gold Over Nickel. Options Available, Consult Sales.
Current Rating:	1 amp
Contact Style:	Blade Design

Ordering Chart:

Specify complete connector by following indicated steps.



STEP	1	2	3	4	5
	71	- 13	**	-◪	-△

Step 1
Series Code:
Series 71

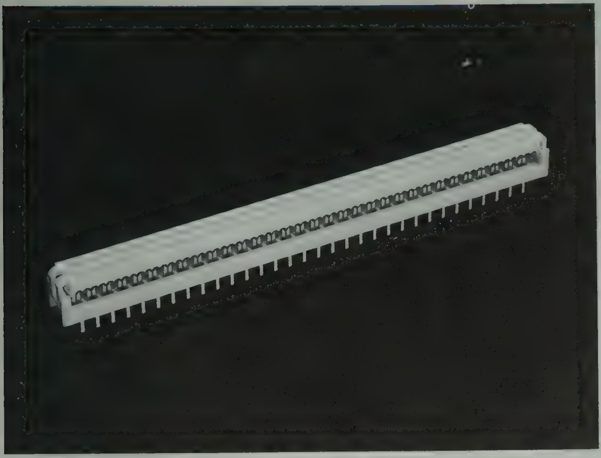
Step 2
Grid Pattern:
13 = .100" x .300"

Step 3
No. of Contacts:
14, 16

Step 4
Tail Ext. (Dim. C):
(No Dash) = .160" Extension from Mounting Boss
-1 = .130" Extension from Mounting Boss

Step 5
Contact Plating:
Consult Sales Dept. For Options

IDC Socket Header Replacement



SERIES 58

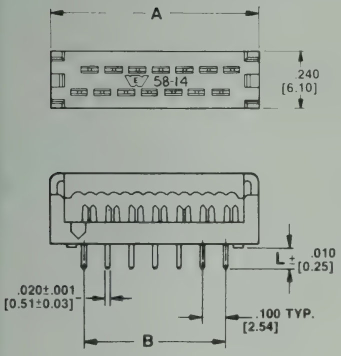
.100" x .100" Grid
One-Step Assembly
Low Cost, All Plastic Insulator

Contact Dimensions

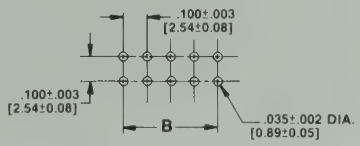
◐	L ±.010 [0.25]
- 1	.125 [3.18]
- 2	.100 [2.54]

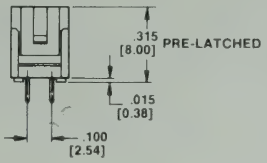
Dimensions

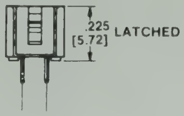
Catalog No.	A	B
58-10-	.680 [17.27]	.400 [10.16]
58-14-	.880 [22.35]	.600 [15.24]
58-16-	.980 [24.89]	.700 [17.78]
58-20-	1.180 [29.97]	.900 [22.86]
58-26-	1.480 [37.59]	1.200 [30.48]
58-34-	1.880 [47.75]	1.600 [40.64]
58-40-	2.180 [55.37]	1.900 [48.26]
58-50-	2.680 [68.07]	2.400 [60.96]
58-60-	3.180 [80.77]	2.900 [73.66]
58-64-	3.380 [85.85]	3.100 [78.74]



RECOMMENDED P.C. BOARD MOUNTING HOLE PATTERN







Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	> 5 x 10^6 ohms
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Beryllium Copper
Plating:	2 - 3µ Gold Over Nickel. Options Available, Consult Sales.
Current Rating:	1 amp
Contact Style:	Blade Design

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4
	58	-✱✱	-◐	-△

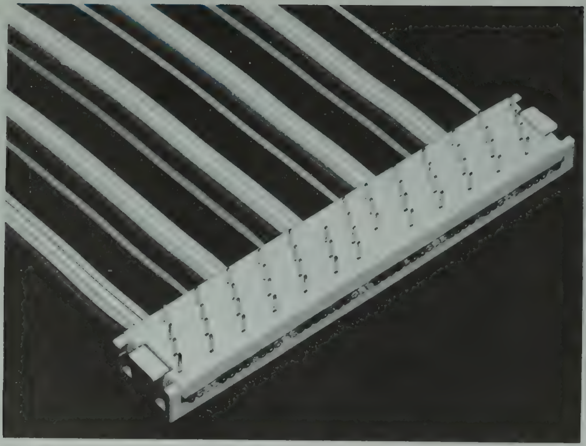
Step 1
Series Code:
Series 58

Step 2
No. of Contacts:
10, 14, 16, 20, 26, 34, 40, 50, 60, 64

Step 3
Tail Ext. (Dim. L):
1 = .125" Extension from Mounting Boss
2 = .100" Extension from Mounting Boss

Step 4
Contact Plating:
Consult Sales Dept
For Options

Transition Connector



SERIES 54

One-Step Assembly
All Plastic Insulator

These Winchester Electronics P.C. board connectors are available in eight different sizes, ranging from 10 to 60 positions. To simplify assembly, cable may be terminated before or after connectors are hand or flow soldered to the board. Connectors are available in three tail lengths to accommodate various board thicknesses. In the Series 54 connectors, box-shaped termination ends with parallel double tines offer increased wire holding strength.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	> 5×10^6 ohms
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Phosphor Bronze
Plating:	2 - 3µ Gold Over Nickel. Options Available, Consult Sales.
Current Rating:	1 amp
Contact Style:	Box Design

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4
	54	- **	- ◪	- △

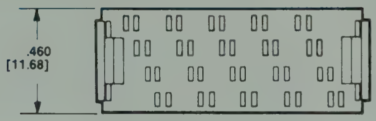
Step 1
Series Code:
Series 54

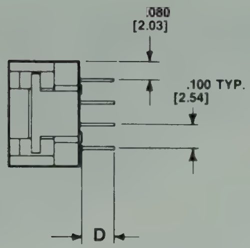
Step 2
No. of Contacts:
10, 16, 20, 26,
34, 40, 50, 60

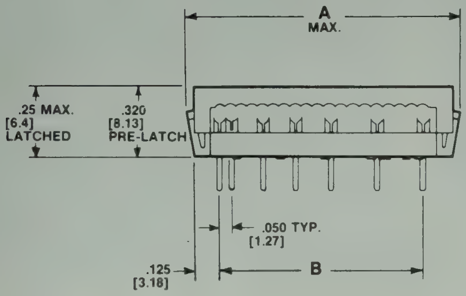
Step 3

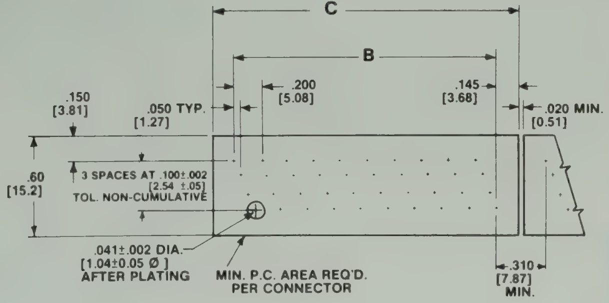
	P.C.B. THICKNESS	SOLDER TAIL (D) EXTENSION (From Mounting Boss)
0	.032" – .047"	.073" [1.85]
1	.062"	.093" [2.36]
2	.094" – .125"	.148" [3.76]

Step 4
Contact Plating:
Consult Sales Dept.
For Options







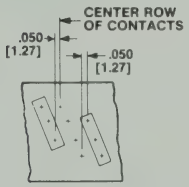


RECOMMENDED P.C. BOARD HOLE PATTERN
40 Positions Shown.

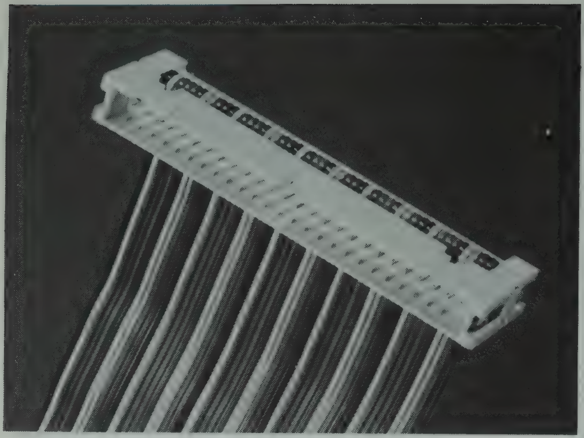
Pattern Shown From Mounting Side Of P.C. Board. For Sizes 16, 20, 40, 60 Only.

Dimensions

Catalog No.	A	B	C
54-10-	.751 Max. [19.08]	.450 [11.43]	.74 [18.8]
54-16-	1.051 Max. [26.70]	.750 [19.05]	1.04 [26.4]
54-20-	1.251 Max. [31.78]	.950 [24.13]	1.24 [31.5]
54-26-	1.551 Max. [39.40]	1.250 [31.75]	1.54 [39.1]
54-34-	1.951 Max. [49.56]	1.650 [41.91]	1.94 [49.3]
54-40-	2.251 Max. [57.18]	1.950 [49.53]	2.24 [56.9]
54-50-	2.751 Max. [69.88]	2.450 [62.23]	2.74 [69.6]
54-60-	3.251 Max. [82.58]	2.950 [74.93]	3.24 [82.3]



Typical For Sizes 10, 26, 34, 50 Only.



SERIES 68

.100" x .100" Grid
Pre-Assembled Plug Connector

This Winchester Electronics Plug connector is designed to mate with Flex-Com Series 51, 61, or 81 female socket connectors. The 68 Series features a two-stage stainless steel latch that saves time and increases accuracy.

Series 68 Plug connectors are available with half mounting ears or without mounting ears to mate with female socket connectors in I/O applications. Plug connectors without mounting ears can be used to mate with socket connectors in splice applications. A strain relief is also available.

The center slot of the Flex-Com Plug connector accepts sockets with or without center side key. MIL-C-83503 polarizing keys fit on plug connectors and interface with two slots on socket connectors (size 20 through 60) and one slot on socket connectors (size 16) which enforces additional socket/ header retention and prevents mismating and reverse mating problems. The size 10 and 14 position connectors are polarized by a center key slot only.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105° C

CONTACTS

Material:	Beryllium Copper
Plating:	15u Gold Over Nickel on Mating End, Gold Flash on Remainder.
Current Rating:	1 amp
Contact Style:	Blade Design

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4
68	- **	- ◪	◐

Step 1

Series Code:
Series 68

Step 2

No. of Contacts:
10, 14, 16, 20, 26, 34 40, 50, 60

Step 3

Mounting Options:
0 - Without Mounting Ears
1 - With Mounting Ears

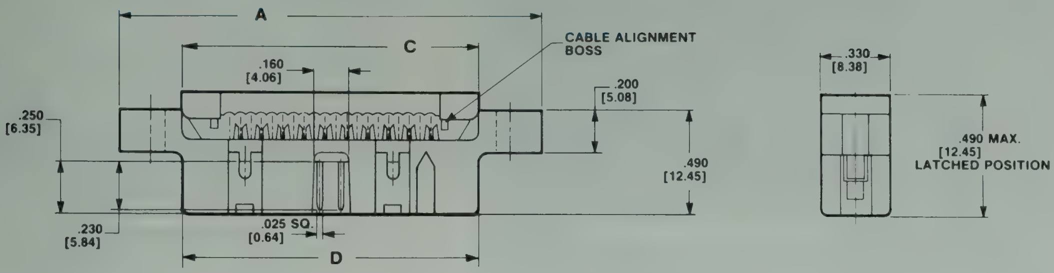
Step 4

Strain Relief Options:
0 = Without Strain Relief
1 = With Strain Relief

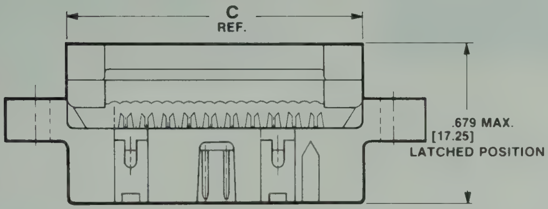
Plug Connector .100" x .100" Grid

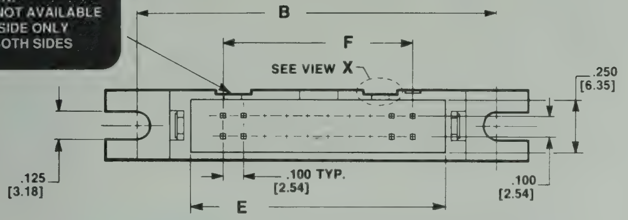
Series 68

WITHOUT STRAIN RELIEF



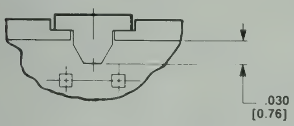
WITH STRAIN RELIEF





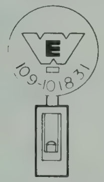
POLARIZATION:
SIZES 10, 14 NOT AVAILABLE
SIZE 16 THIS SIDE ONLY
SIZES 20-60 BOTH SIDES

POLARIZATION KEY INSTALLED



VIEW X

POLARIZATION KEY

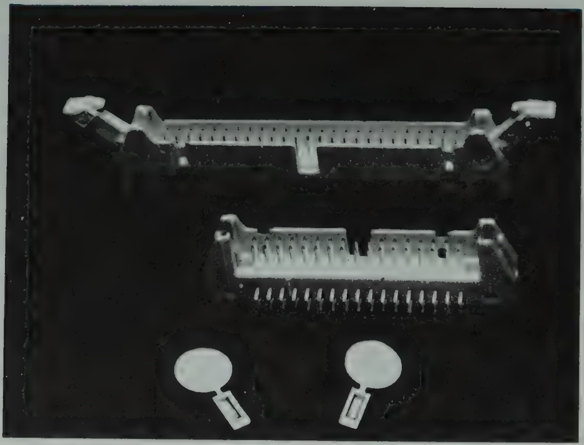


Order Separately
CAT. NO. 109-101831

Dimensions

Catalog No.	A	B	C	D	E	F
68-10-	1.500 [38.10]	1.200 [30.48]	.890 [22.61]	.900 [22.86]	.710 [18.03]	.400 [10.16]
68-14-	1.700 [43.18]	1.400 [35.56]	1.090 [27.69]	1.100 [27.94]	.910 [23.11]	.600 [15.24]
68-16-	1.800 [45.72]	1.500 [38.10]	1.190 [30.23]	1.200 [30.48]	1.010 [25.65]	.700 [17.78]
68-20-	2.000 [50.80]	1.700 [43.18]	1.390 [35.31]	1.400 [35.56]	1.210 [30.73]	.900 [22.86]
68-26-	2.300 [58.42]	2.000 [50.80]	1.690 [42.93]	1.700 [43.18]	1.510 [38.35]	1.200 [30.48]
68-34-	2.700 [68.58]	2.400 [60.96]	2.090 [53.09]	2.100 [53.34]	1.910 [48.51]	1.600 [40.64]
68-40-	3.000 [76.20]	2.700 [68.58]	2.390 [60.71]	2.400 [60.96]	2.210 [56.13]	1.900 [48.26]
68-50-	3.500 [88.90]	3.200 [81.28]	2.890 [73.41]	2.900 [73.66]	2.710 [68.83]	2.400 [60.96]
68-60-	4.000 [101.60]	3.700 [93.98]	3.390 [86.11]	3.400 [86.36]	3.210 [81.53]	2.900 [73.66]

Headers With Ejector Latches



SERIES 85 *(Three-Sided Shroud)*
SERIES 86 *(Four-Sided Shroud)*

.100" x .100" Grid
Straight or Right Angle Pins
MIL-C-83503 Compatible

Flex-Com Series 85 and Series 86 Headers are designed to meet MIL-C-83503 specifications. Polarization is achieved by the combination of a single center slot and two optional polarizing key locations in the header.

Solder tails are supplied in .025" square or .028" round configurations, straight or right angle. Tails are also available in wire-wrap configurations, straight or right angle.

Ejector latches make it easy to remove the socket out of the header without stressing the P.C. board. The latch design features a unique snap-in-slot mechanism that assures positive mechanical locking action. Ejector latches are offered in three lengths for sockets with or without strain relief.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Copper Alloy
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales
Current Rating:	1 amp

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6
85/86	-**	- ◪	◺	◐	-△

Step 1

Series Code:
Series 85
Series 86

Step 2

No. of Contacts:
10, 14, 16, 20, 26, 34, 40, 50, 60, 64

Step 3

Contact Type:
0 = Straight Pin
1 = Right Angle Pin

Step 4

Contact Style:
* 0 = .025" Sq. Wire Wrap, .610" Extension
1 = .025" Sq. Dip Solder, .103" Extension, for .062" P.C. Board
2 = .025" Sq. Dip Solder, .165" Extension, for .125" P.C. Board
3 = .028" Dia. Dip Solder, .103" Extension, for .062" P.C. Board
4 = .028" Dia. Dip Solder, .165" Extension, for .125" P.C. Board

Step 5

Ejector Latch Options:
0 = No Latches Required.
1 = For use with 61 or 81 Series socket connector **without** strain relief.
2 = For use with 61 or 81 Series socket connector **with** strain relief.
3 = For use with 51 Series socket connector **with** or **without** strain relief

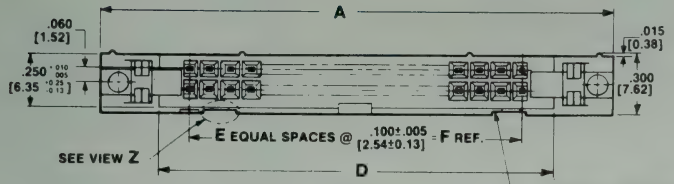
Ejector latches may also be ordered separately under **Cat. No. -101988- ◐** .

Step 6

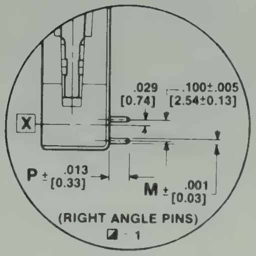
Contact Plating:
Consult Sales Dept.
For Options

* *Not available on right angle version of Series 86.*

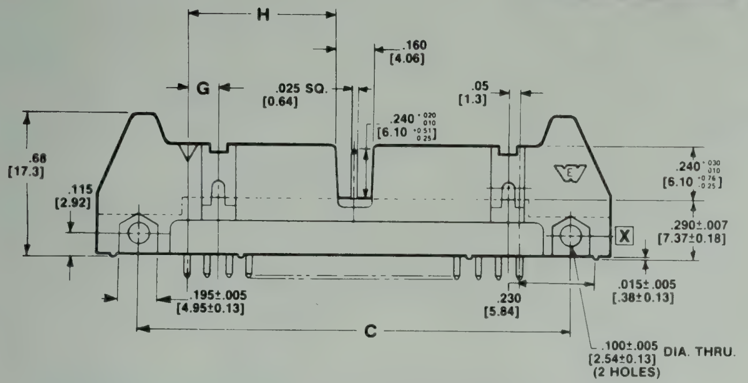
THREE-SIDED HEADER

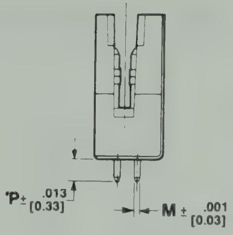


SIZES 10 & 14 HAVE A POLARIZATION SLOT ON THIS SIDE ONLY.

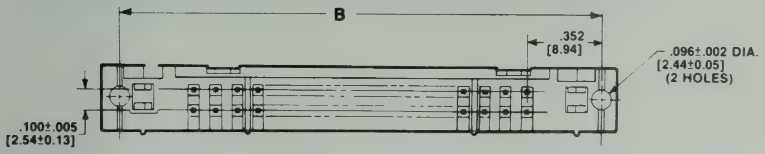


(RIGHT ANGLE PINS)
◪ - 1

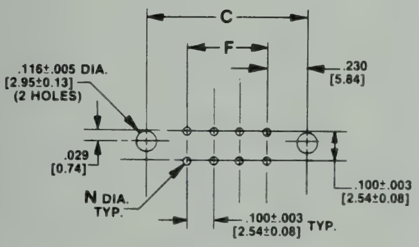




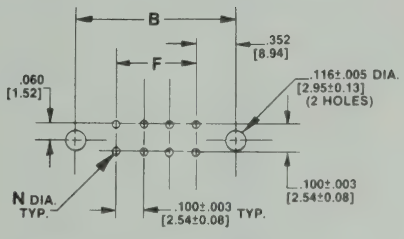
(STRAIGHT PINS)
◪ = 0



RECOMMENDED P.C. BOARD HOLE PATTERNS



MOUNTING HOLE PATTERN
FOR RIGHT ANGLE HEADER

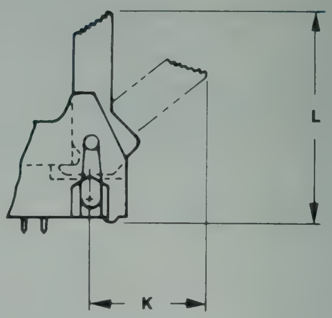


MOUNTING HOLE PATTERN
FOR STRAIGHT PIN HEADER

Contact Dimensions

△	M ± .001 [0.03]	P.C. BOARD THICKNESS	N DIA.	P ± .013 [0.33]	APPLICATION
0	.025 SQ. [0.64]	—	.045±.002 [1.14±0.05]	.610 [15.49]	WIRE WRAP
1	.025 SQ. [0.64]	.062 [1.57]	.045±.002 [1.14±0.05]	.103 [2.62]	DIP SOLDER
2	.025 SQ. [0.64]	.125 [3.18]	.045±.002 [1.14±0.05]	.165 [4.19]	
3	.028 DIA. [0.71]	.062 [1.57]	.035±.002 [0.89±0.05]	.103 [2.62]	
4	.028 DIA. [0.71]	.125 [3.18]	.035±.002 [0.89±0.05]	.165 [4.19]	

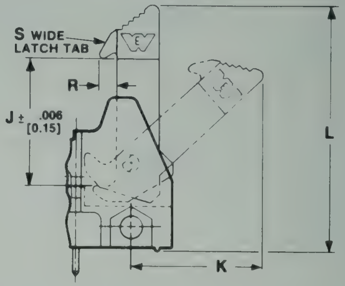
EJECTOR INSTALLED



Ejector Latch Dimensions

◐	J	K	L	R	S
1	.430 [10.92]	.49 [12.4]	.96 [24.4]	.08 [2.0]	.200 [5.08]
2	.573 [14.55]	.60 [15.2]	1.10 [27.9]	.08 [2.0]	.095 [2.41]
3	.463 [11.76]	.52 [13.2]	.99 [25.1]	.05 [1.3]	.060 [1.52]
4	N/A	.60 [15.2]	1.10 [27.9]	N/A	N/A

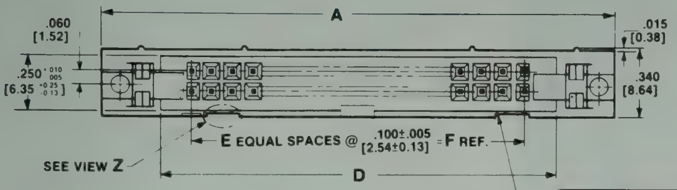
EJECTOR LATCH INSTALLED



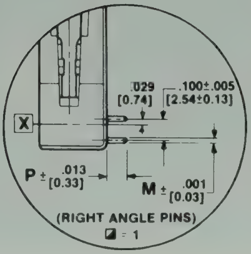
Dimensions

CATALOG NO.	A	B	C	D	E	F	G	H
85/86-10-	1.26 [32.0]	1.10 [27.9]	.860 [21.84]	.705 [17.91]	4	.400 [10.16]	NOT AVAILABLE	NOT AVAILABLE
85/86-14-	1.46 [37.1]	1.30 [33.0]	1.060 [26.92]	.905 [22.99]	6	.600 [15.24]	NOT AVAILABLE	.22 [5.6]
85/86-16-	1.56 [39.6]	1.40 [35.6]	1.160 [29.46]	1.005 [25.53]	7	.700 [17.78]	.15 [3.8]	.27 [6.9]
85/86-20-	1.76 [44.7]	1.60 [40.6]	1.360 [34.54]	1.205 [30.61]	9	.900 [22.86]	.15 [3.8]	.37 [9.4]
85/86-26-	2.06 [52.3]	1.90 [48.3]	1.660 [42.16]	1.505 [38.23]	12	1.200 [30.48]	.15 [3.8]	.52 [13.2]
85/86-34-	2.46 [62.5]	2.30 [58.4]	2.060 [52.32]	1.905 [48.39]	16	1.600 [40.64]	.15 [3.8]	.72 [18.3]
85/86-40-	2.76 [70.1]	2.60 [66.0]	2.360 [59.94]	2.205 [56.01]	19	1.900 [48.26]	.15 [3.8]	.87 [22.1]
85/86-50-	3.26 [82.8]	3.10 [78.7]	2.860 [72.64]	2.705 [68.71]	24	2.400 [60.96]	.15 [3.8]	1.12 [28.4]
85/86-60-	3.76 [95.5]	3.60 [91.4]	3.360 [85.34]	3.205 [81.41]	29	2.900 [73.66]	.15 [3.8]	1.37 [34.8]
85/86-64-	3.96 [100.6]	3.80 [96.5]	3.560 [90.42]	3.405 [86.49]	31	3.100 [78.74]	.15 [3.8]	1.47 [37.3]

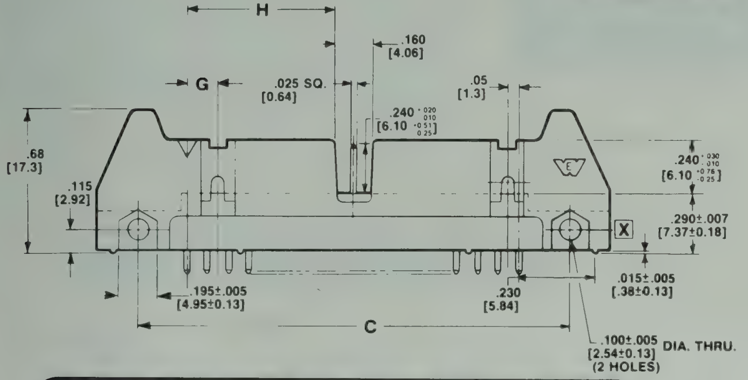
FOUR-SIDED HEADER

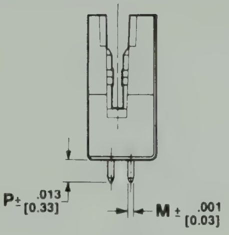


SIZES 10 & 14 HAVE A POLARIZATION SLOT ON THIS SIDE ONLY.



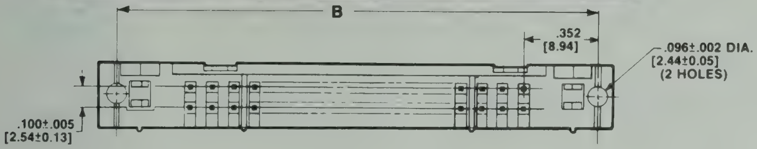
(RIGHT ANGLE PINS)
▨ = 1



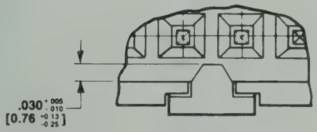


(STRAIGHT PINS)
▨ = 0

CENTER SLOT AVAILABLE IN SERIES 86 ON SIZE 10.
Add -4498 AFTER PLATING CODE.

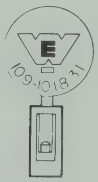


POLARIZATION KEY
INSTALLED

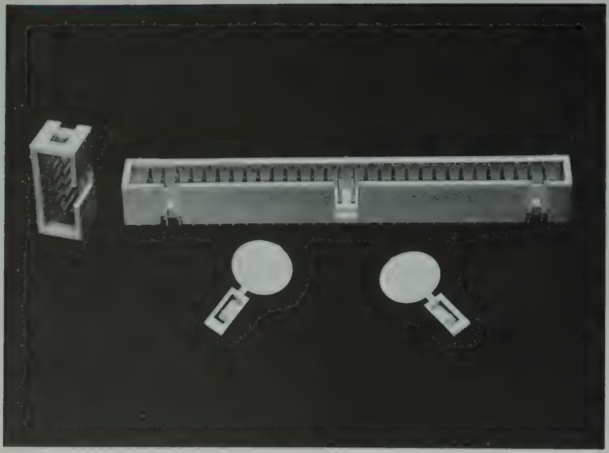


VIEW Z

POLARIZATION KEY



Order Separately
CAT. NO. 109-101831



SERIES 70

.100" x .100" Grid
MIL-C-83503 Compatible

The Winchester Electronics Pin Cup Headers offer the advantage of a low profile, compact configuration, with reduced size for improved utilization of board space and board-to-board clearances. The added reliability of Copper Alloy contacts helps ensure longer service life and greater mechanical dependability.

Snap-in polarization keys help prevent mismatch, provide protection against equipment damage, and simplify field maintenance. Military polarization keys fit on connectors and interface with two Mil-Style slots on socket connectors in sizes 20 through 60, and one slot on size 16 socket connectors. The size 10 and 14 position connectors are polarized by a center key slot only. Center slot of each connector accepts sockets with or without center side key.

The Flex-Com Pin Cup Four-Sided connector is designed to mate with all major .100" x .100" grid female socket connectors.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

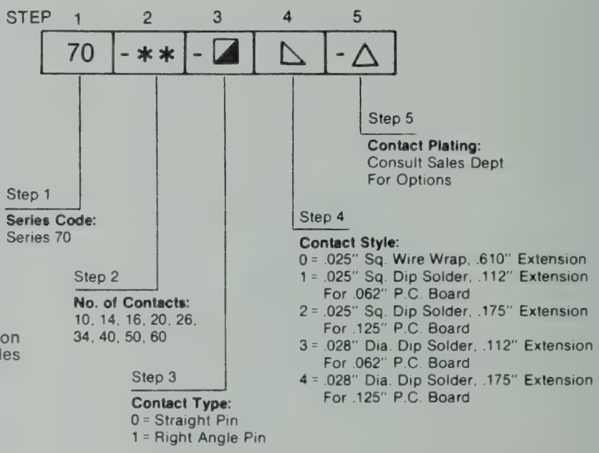
Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Copper Alloy
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales
Current Rating:	1 amp

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1
Series Code:
Series 70

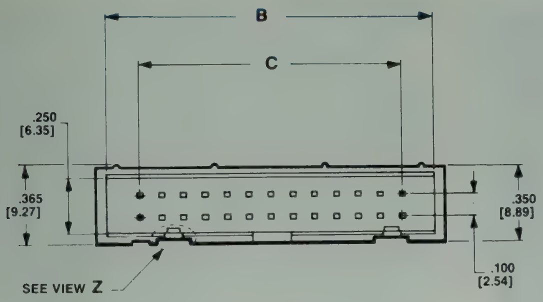
Step 2
No. of Contacts:
10, 14, 16, 20, 26, 34, 40, 50, 60

Step 3
Contact Type:
0 = Straight Pin
1 = Right Angle Pin

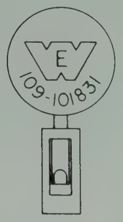
Step 4
Contact Style:
0 = .025" Sq. Wire Wrap, .610" Extension
1 = .025" Sq. Dip Solder, .112" Extension For .062" P.C. Board
2 = .025" Sq. Dip Solder, .175" Extension For .125" P.C. Board
3 = .028" Dia. Dip Solder, .112" Extension For .062" P.C. Board
4 = .028" Dia. Dip Solder, .175" Extension For .125" P.C. Board

Step 5
Contact Plating:
Consult Sales Dept For Options

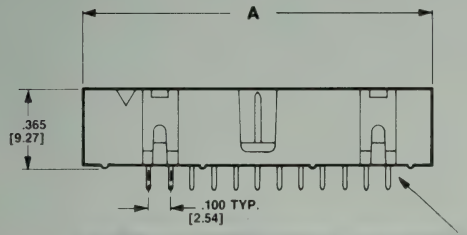
Pin Cup Header .100" x .100" Grid



POLARIZATION KEY

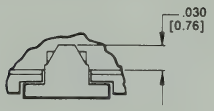


Order Separately
CAT. NO. 109-101831

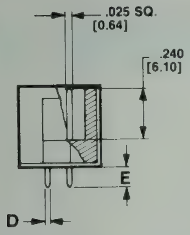


NOTE: MIL-STYLE POLARIZATION SLOTS ARE NOT AVAILABLE ON SIZES 10, 14, AND ARE AVAILABLE ON THIS SIDE ONLY FOR SIZE 16.

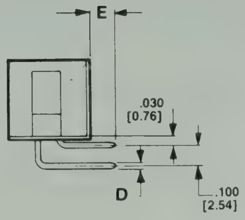
POLARIZATION KEY INSTALLED



VIEW Z



◪ = 0



◪ - 1

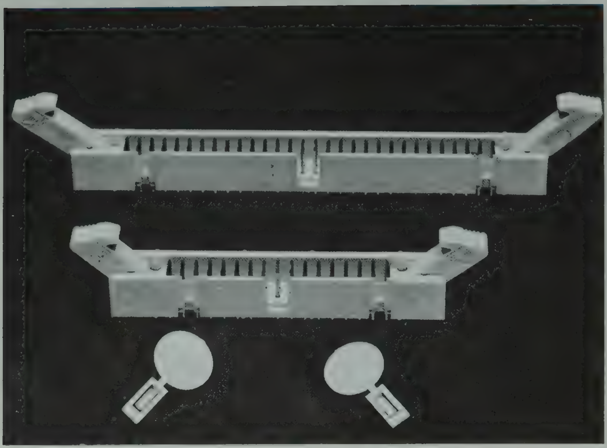
Contact Dimensions

◪	D	P.C. Board Thickness	P.C. Board Hole Dia.	E	Application
0	.025 SQ. [0.64]	—	.045 [1.14]	.610 [15.49]	WIRE WRAP
1	.025 SQ. [0.64]	.062 [1.57]	.045 [1.14]	.112 [2.84]	DIP SOLDER
2	.025 SQ. [0.64]	.125 [3.18]	.045 [1.14]	.175 [4.44]	
[illegible]	.028 DIA. [0.71]	.062 [1.57]	.035 [0.89]	.112 [2.84]	
4	.028 DIA. [0.71]	.125 [3.18]	.035 [0.89]	.175 [4.44]	

Dimensions

Catalog No.	A	B	C
70-10-	.800 [20.32]	.700 [17.78]	.400 [10.16]
70-14-	1.000 [25.40]	.900 [22.86]	.600 [15.24]
70-16-	1.100 [27.94]	1.000 [25.40]	.700 [17.78]
70-20-	1.300 [33.02]	1.200 [30.48]	.900 [22.86]
70-26-	1.600 [40.64]	1.500 [38.10]	1.200 [30.48]
70-34-	2.000 [50.80]	1.900 [48.26]	1.600 [40.64]
70-40-	2.300 [58.42]	2.200 [55.88]	1.900 [48.26]
70-50-	2.800 [71.12]	2.700 [68.58]	2.400 [60.96]
70-60-	3.300 [83.82]	3.200 [81.28]	2.900 [73.66]

80 Series .100" x .100" Grid Pin Cup Header w/Latches



SERIES 80

.100" x .100" Grid
MIL-C-83503 Compatible

The Winchester Electronics Pin Cup Headers with optional latches offer the advantage of a low profile, compact configuration, with reduced size for improved utilization of board space and board-to-board clearances. The added reliability, of Copper Alloy contacts and four-sided protection, helps ensure longer service life and greater mechanical dependability. Military polarization keys fit on connectors and interface with two Mil-Style slots on socket connectors.

Optional ejector latches do not rely on conventional metal roll pins. Our unique construction combines with a snap-in-slot mechanism for ease of assembly. Besides their built-in holding power, these new precision latches offer the flexibility, economy, and convenience of on-the-job retrofitting without special tools. Latches are available for the 80 Series Pin Cup Header to allow mating with the 51, 61, and 81 Series Socket connectors.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Copper Alloy
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales
Current Rating:	1 amp

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6
	80	-✱✱	-◪	◺	◐	-△

Step 1
Series Code:
Series 80

Step 2
No. of Contacts:
10, 14, 16, 20, 26, 34, 40, 50, 60

Step 3
Contact Type:
0 = Straight Pin
1 = Right Angle Pin

Step 4
Contact Style:
0 = .025" Sq. Wire Wrap, .610" Extension
1 = .025" Sq. Dip Solder, .112" Extension For .062" P.C. Board
2 = .025" Sq. Dip Solder, .175" Extension For .125" P.C. Board
3 = .028" Dia. Dip Solder, .112" Extension For .062" P.C. Board
4 = .028" Dia. Dip Solder, .175" Extension For .125" P.C. Board

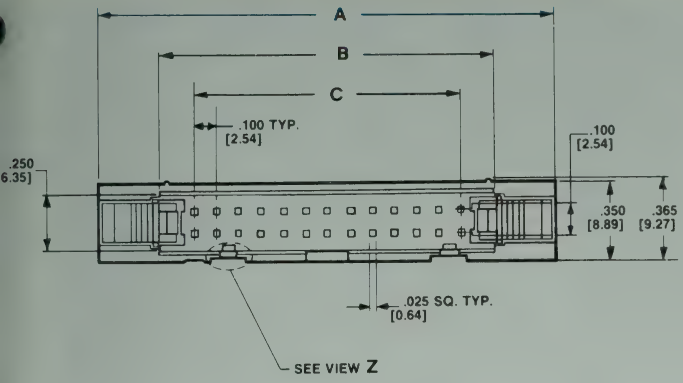
Step 5
Ejector Latch Options: *(If latch not required, omit*
See 70 Series Pin Cup.
1 = For use with 51 Series socket connector without strain relief
2 = For use with 51 Series socket connector with strain relief
3 = For use with 61 or 81 Series socket or any socket connector without strain relief and overall height of .420".
4 = For use with 61 or 81 Series socket or any socket connector with strain relief and overall height of .570".

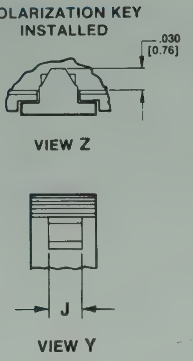
NOTE: Replacement latches may be ordered under Catalog Number **-101922-◐**.

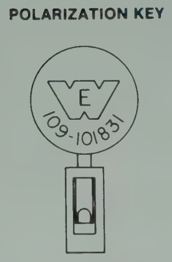
Step 6
Contact Plating:
Consult Sales Dept. For Options

Pin Cup Header w/Latches .100" x .100" Grid

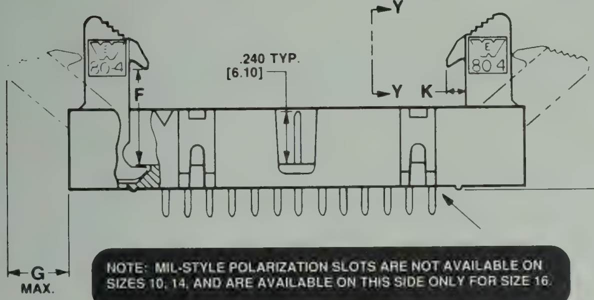
Series 80



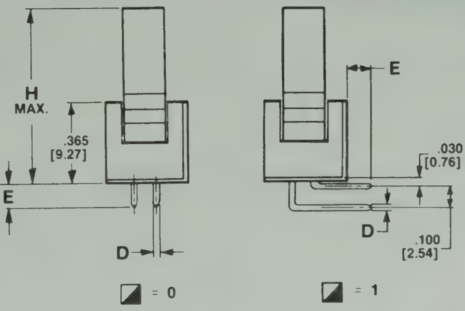




Order Separately
CAT. NO. 109-101831



NOTE: MIL-STYLE POLARIZATION SLOTS ARE NOT AVAILABLE ON SIZES 10, 14, AND ARE AVAILABLE ON THIS SIDE ONLY FOR SIZE 16.



Ejector Latch Dimensions

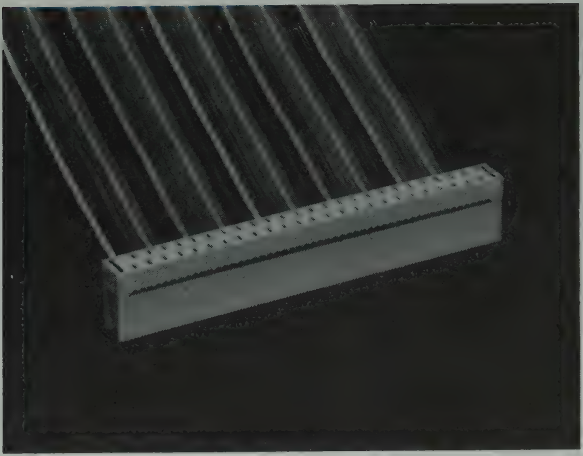
◐	F	G MAX.	H MAX.	J	K
1	.463 [11.76]	.318 [8.08]	.83 [21.1]	.190 [4.83]	.100 [2.54]
2	.643 [16.33]	.457 [11.61]	1.01 [25.7]	.190 [4.83]	.100 [2.54]
3	.423 [10.74]	.288 [7.32]	.79 [20.1]	.190 [4.83]	.100 [2.54]
4	.573 [14.55]	.403 [10.24]	.94 [23.9]	.100 [2.54]	.080 [2.03]

Dimensions

Catalog No.	A	B	C
80-10-	1.25 [31.8]	.700 [17.78]	.400 [10.16]
80-14-	1.45 [36.8]	.900 [22.86]	.600 [15.24]
80-16-	1.55 [39.4]	1.000 [25.40]	.700 [17.78]
80-20-	1.75 [44.4]	1.200 [30.48]	.900 [22.86]
80-26-	2.05 [52.1]	1.500 [38.10]	1.200 [30.48]
80-34-	2.45 [62.2]	1.900 [48.26]	1.600 [40.64]
80-40-	2.75 [69.8]	2.200 [55.88]	1.900 [48.26]
80-50-	3.25 [82.6]	2.700 [68.58]	2.400 [60.96]
80-60-	3.75 [95.2]	3.200 [81.28]	2.900 [73.66]

Contact Dimensions

◺	D	P.C. Board Thickness	P.C. Board Hole Dia.	E	Application
0	.025 SQ. [0.64]	—	.045 [1.14]	.610 [15.49]	WIRE WRAP
1	.025 SQ. [0.64]	.062 [1.57]	.045 [1.14]	.112 [2.84]	DIP SOLDER
2	.025 SQ. [0.64]	.125 [3.18]	.045 [1.14]	.175 [4.44]	
3	.028 DIA. [0.71]	.062 [1.57]	.035 [0.89]	.112 [2.84]	
4	.028 DIA. [0.71]	.125 [3.18]	.035 [0.89]	.175 [4.44]	



SERIES 51 STANDARD SOCKET
SERIES 61 LOW PROFILE SOCKET

One-Step Assembly
.100" x .100" Grid

These highly reliable, rugged, compact Winchester Electronics Socket connectors offer an optional strain relief feature and bump key polarization.

Flex-Com Socket connectors are available for 10, 14, 16, 20, 26, 34, 40, 50 and 60 contact positions. A positive locking, metal latch clip ensures high retention reliability.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105° C

CONTACTS

Material:	Phosphor Bronze
Plating:	15u Gold Over Nickel on Mating End, Gold Flash on Remainder. Options Available, Consult Sales
Current Rating:	1 amp
Contact Style:	Box Design

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6
51/61	- 11	**	- ◪	◐	- △

Step 1
Series Code:
Series 51
Series 61

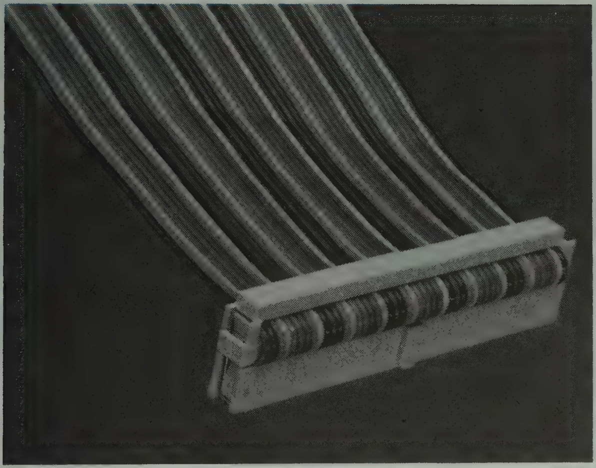
Step 2
Grid Pattern:
11 = .100" x .100"

Step 3
No. of Contacts:
10, 14, 16, 20, 26
34, 40, 50, 60

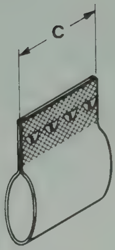
Step 4
Side Key Options:
0 = Without Side Key
1 = With Single Side Key

Step 5
Strain Relief Options:
0 Without Strain Relief
1 = With Strain Relief

Step 6
Contact Plating:
Consult Sales Dept
For Options

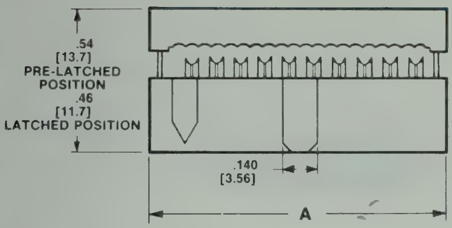


POLARIZATION KEY
[0.69] MAX. WIDTH
Order Separately Under
Catalog Number 109-101146



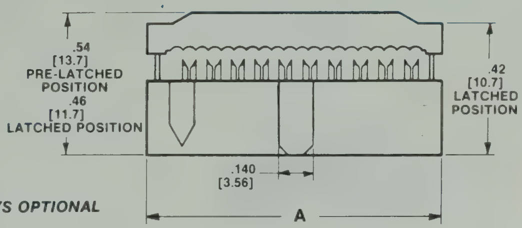
PULL TAB
Order Separately Under
Catalog Number 51-23741- **
** = *Number of Contacts*

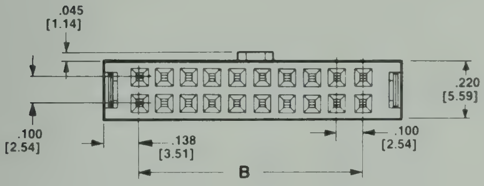
51 SERIES STANDARD SOCKET



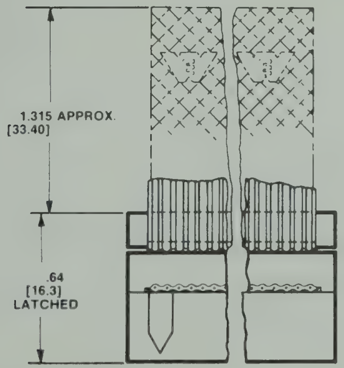
SIDE KEYS OPTIONAL

61 SERIES LOW PROFILE SOCKET



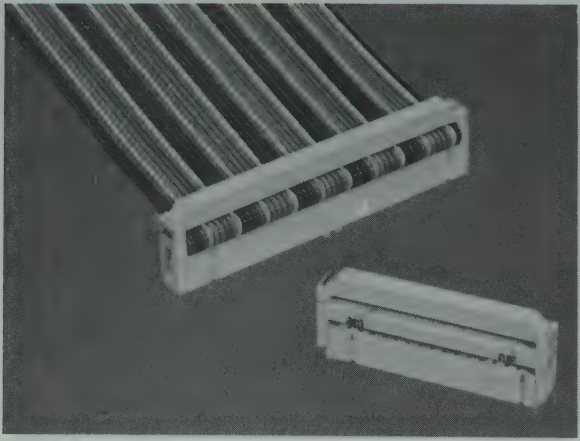


WITH STRAIN RELIEF AND PULL TAB



Dimensions

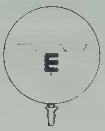
Socket Catalog Number		A	B	C
STANDARD	LOW PROFILE			
51-1110-	61-1110-	.676 [17.17]	.400 [10.16]	.472 [11.99]
51-1114-	61-1114-	.876 [22.25]	.600 [15.24]	.672 [17.07]
51-1116-	61-1116-	.976 [24.79]	.700 [17.78]	.772 [19.61]
51-1120-	61-1120-	1.176 [29.87]	.900 [22.86]	.972 [24.69]
51-1126-	61-1126-	1.476 [37.49]	1.200 [30.48]	1.272 [32.31]
51-1134-	61-1134-	1.876 [47.65]	1.600 [40.64]	1.672 [42.47]
51-1140-	61-1140-	2.176 [55.27]	1.900 [48.26]	1.972 [50.09]
51-1150-	61-1150-	2.676 [67.97]	2.400 [60.96]	2.472 [62.79]
51-1160-	61-1160-	3.176 [80.67]	2.900 [73.66]	2.972 [75.49]



SERIES 81

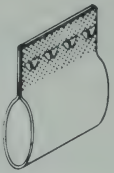
MIL-C-83503 Compatible
UL Recognized
.100″ x .100″ Grid

This new Flex-Com Socket connector is designed to meet all requirements of MIL-C-83503. The socket employs Beryllium Copper contacts together with polyester thermoplastic insulators. The Winchester Electronics Series 81 is available in sizes 10, 14, 16, 20, 26, 34, 40, 50, 60 and 64 contact positions, with or without strain relief. It is also available with or without bump key polarization. For the most reliable military package available, we suggest ordering the new 81 Series Socket connector in conjunction with our 85/86 Series Military Style Header.



POLARIZATION KEY
[0.69] MAX. WIDTH

Order Separately Under
Catalog Number 109-101146



PULL TAB

Order Separately Under:
Catalog Number 51-23741 - **

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Beryllium Copper
Plating:	Gold On Socket Portion, Tin On Remainder. Options Available, Consult Sales
Current Rating:	1 amp
Contact Style:	Blade Design

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6
	81	- ✱✱	- ◩	◐	◺	- △

Step 1
Series Code:
Series 81

Step 2
No. of Contacts:
10, 14, 16, 20, 26,
34, 40, 50, 60, 64

Step 3
Side Key Option:
0 = Without Side Key
1 = With Side Key

Step 4
Strain Relief Option:
0 = Without Strain Relief
1 = With Strain Relief

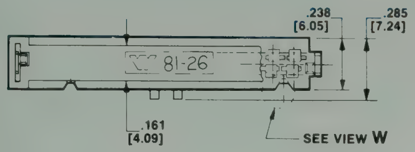
Strain Relief May Also Be Ordered Separately Under Catalog Number -106387- **

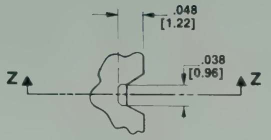
Step 5
Upper Molding Option:
2 = Without Cable Stop
3 = With Cable Stop

Step 6
Contact Plating:
Consult Sales Dept.
For Options

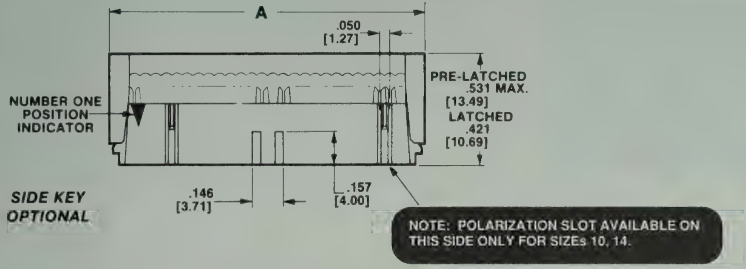
Mil-Spec Compatible Socket .100" x .100" Grid

Series 81

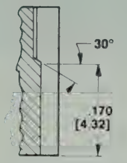




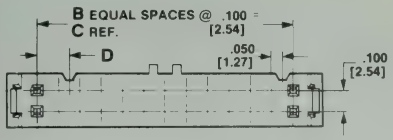
VIEW W



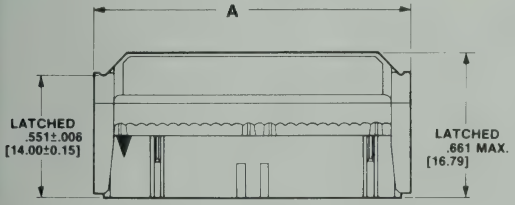
NOTE: POLARIZATION SLOT AVAILABLE ON THIS SIDE ONLY FOR SIZEs 10, 14.



PARTIAL SECTION Z-Z



CONNECTOR ASSEMBLY WITH STRAIN RELIEF

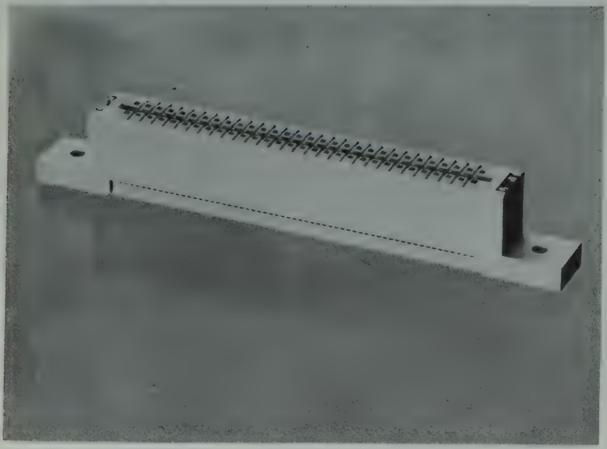


Dimensions

Catalog No.	A	B	C REF.	D
81-10-	.68 [17.3]	4	.400 [10.16]	NOT AVAILABLE
81-14-	.88 [22.4]	6	.600 [15.24]	NOT AVAILABLE
81-16-	.98 [24.9]	7	.700 [17.78]	.150 [3.81]
81-20-	1.18 [30.0]	9	.900 [22.86]	.150 [3.81]
81-26-	1.48 [37.6]	12	1.200 [30.48]	.150 [3.81]
81-34-	1.88 [47.8]	16	1.600 [40.64]	.150 [3.81]
81-40-	2.18 [55.4]	19	1.900 [48.26]	.150 [3.81]
81-50-	2.68 [68.1]	24	2.400 [60.96]	.150 [3.81]
81-60-	3.18 [80.8]	29	2.900 [73.66]	.150 [3.81]
81-64-	3.38 [85.9]	31	3.100 [78.74]	.150 [3.81]

33 Series

IDC Edgecard Connecto



Winchester Electronics' Flex-Com IDC Edgecard connectors provide a reliable interconnection between double sided printed circuit boards on .100" centers and ribbon cable assemblies. These connectors mate directly to the pads or fingers of a printed circuit board, and are supplied with half, full or no mounting ears. Serrated covers assure proper alignment of ribbon cable. Series 33 connectors accommodate wire sizes 30 AWG Solid, 28 AWG Solid or Stranded, and 26 AWG Solid or Stranded. They are available in sizes 10, 14, 16, 20, 26, 34, 40, 50, 60, and 64 with other sizes available on request.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	> 5 x 10^6 ohms
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Phosphor Bronze
Current Rating:	1 amp
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5
33	- ✱✱	- ◪	- ◐	- △

Step 1

Series Code:
Series 33

Step 2

No. of Contacts:
10,14,16,20,26,34,
40,50,60,64

Step 3

Mounting Options:
0 = No Mounting
1 = Half Mounting Ears
2 = Full Mounting Ears

Step 4

Polarization Option *(Between Contacts)* :
Using "Even" Numbered Contact Row. Specify Contact Position Numbers Before and After Desired Pol. Key Position for Each Pol. Key Required

Single Polarization Example: 33-. ** - ◪ **- 4/6 -** △ ; Would Provide A Pol. Key Between Contact Pair Positions 3. 4 and 5. 6

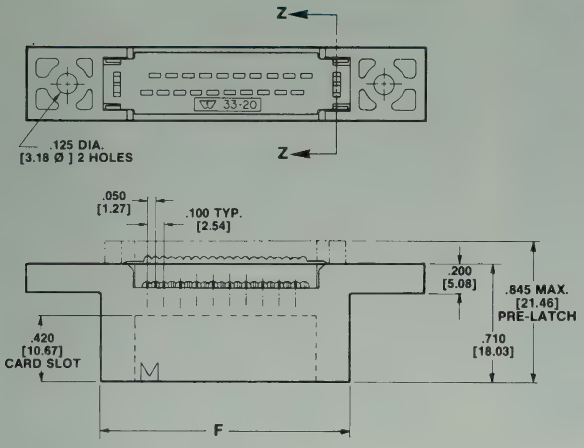
Double Polarization Example: 33- ** - ◪ **- 4/6 - 40/42 -** △ ; Would Provide A Pol. Key Between Contact Pair Positions 3. 4 and 5. 6 and also 39. 40 and 41. 42

OMIT THIS STEP IF POLARIZATION IS NOT REQUIRED

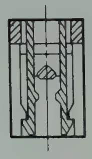
***Polarization Key May Also Be Ordered Separately Under* Catalog Number 109-101037.**

Step 5

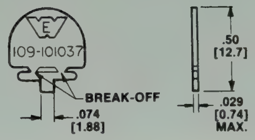
Contact Plating:
Consult Sales Dept.
For Options



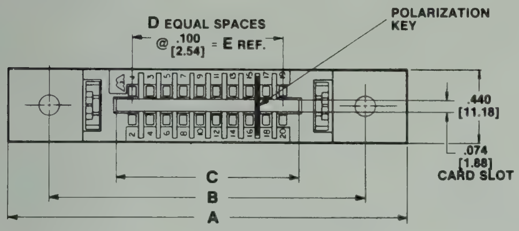
CATALOG NUMBER 33-20-2-16/18-△

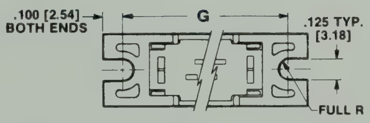


SECTION Z-Z

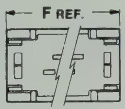


POLARIZATION KEY





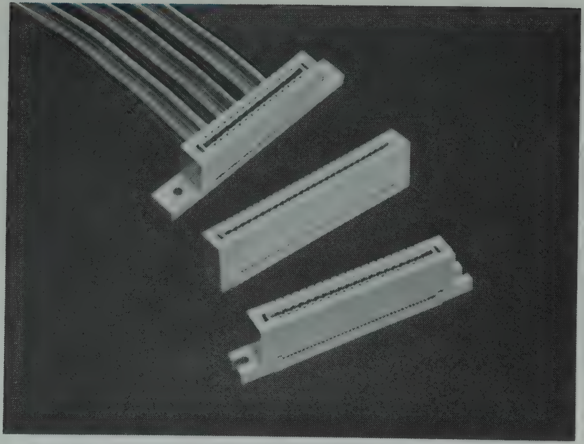
33-**-1- ◐ -△
HALF MOUNTING EARS



33-**-0- ◐ -△
NO MOUNTING EARS

Dimensions

Catalog No.	A	B	C	D	E REF.	F	G
33-10-	1.900 [48.26]	1.400 [35.56]	.605 [15.37]	4	.400 [10.16]	.960 [24.38]	1.300 [33.02]
33-14-	2.100 [53.34]	1.600 [40.64]	.805 [20.45]	6	.600 [15.24]	1.160 [29.46]	1.500 [38.10]
33-16-	2.200 [55.88]	1.700 [43.18]	.905 [22.99]	7	.700 [17.78]	1.260 [32.00]	1.600 [40.64]
33-20-	2.400 [60.96]	1.900 [48.26]	1.105 [28.07]	9	.900 [22.86]	1.460 [37.08]	1.800 [45.72]
33-26-	2.700 [68.58]	2.200 [55.88]	1.405 [35.69]	12	1.200 [30.48]	1.760 [44.70]	2.100 [53.34]
33-34-	3.100 [78.74]	2.600 [66.04]	1.805 [45.85]	16	1.600 [40.64]	2.160 [54.86]	2.500 [63.50]
33-40-	3.400 [86.36]	2.900 [73.66]	2.105 [53.47]	19	1.900 [48.26]	2.460 [62.48]	2.800 [71.12]
33-50-	3.900 [99.06]	3.400 [86.36]	2.605 [66.17]	24	2.400 [60.96]	2.960 [75.18]	3.300 [83.82]
33-60-	4.400 [111.76]	3.900 [99.06]	3.105 [78.87]	29	2.900 [73.66]	3.460 [87.88]	3.800 [96.52]
33-64-	4.600 [116.84]	4.100 [104.14]	3.305 [83.95]	31	3.100 [78.74]	3.660 [92.96]	4.000 [101.60]



SERIES 53

Pre-Latched Assembly
UL Listed Material

Flex-Com Series 53 Edgecard connectors are extremely tough, with built-in durability for the most demanding installations. Beryllium Copper contacts offer an optimum combination of corrosion resistance strength and spring qualities. Convenient probe hole ports facilitate on-line testing. Available in sizes from 10 through 60 contact positions, options include between contact polarization keys, full mounting ears, half mounting ears, or no mounting ears.

One-step assembly features a two-stage latch to save time and increase accuracy. Box-shaped termination ends with parallel double tines offer increased wire holding strength.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	> 5 x 10^6 ohms
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Beryllium Copper
Plating:	15u Gold Over Nickel on Mating End, Gold Flash on Remainder. Options Available, Consult Sales
Current Rating:	1 amp
Contact Style:	Box Design

Ordering Chart: Specify complete connector by following indicated steps.

STEP	1	2	3	4	5
	53	-**	-◪	-◐	-△

Step 1

Series Code:
Series 53

Step 2

No. of Contacts:
10, 16, 20, 26, 30, 34, 40, 44, 50, 60

Step 3

Mounting Option:
0 = No Mounting
1 = Half Mounting Ears
2 = Full Mounting Ears

Step 4

Polarization Option *(Between Contacts)* :
Using "Even" Numbered Contact Row, Specify Contact Position Numbers Before and After Desired Pol. Key Position for Each Pol. Key Required

Single Polarization Example: **53- ** - ◪ - 4/6 - △** ; Would Provide A Pol. Key Between Contact Pair Positions 3, 4 and 5, 6

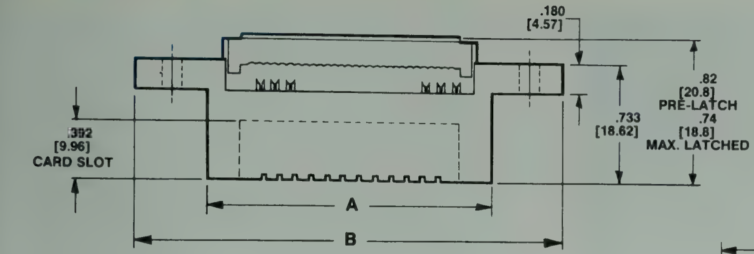
Double Polarization Example: **53- ** - ◪ - 4/6 - 40/42 - △** ; Would Provide A Pol. Key Between Contact Pair Positions 3, 4 and 5, 6 and also 39, 40 and 41, 42

OMIT THIS STEP IF POLARIZATION IS NOT REQUIRED

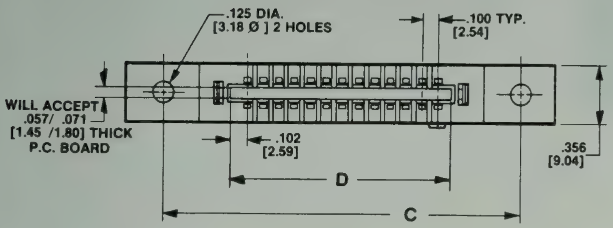
Polarization Key May Also Be Ordered Separately Under Catalog Number 109-101037.

Step 5

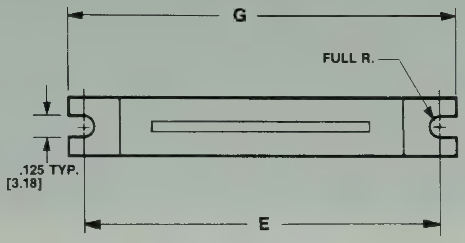
Contact Plating:
Consult Sales Dept
For Options



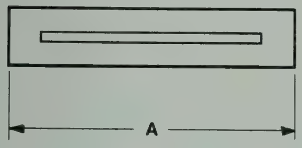
FULL MOUNTING EARS



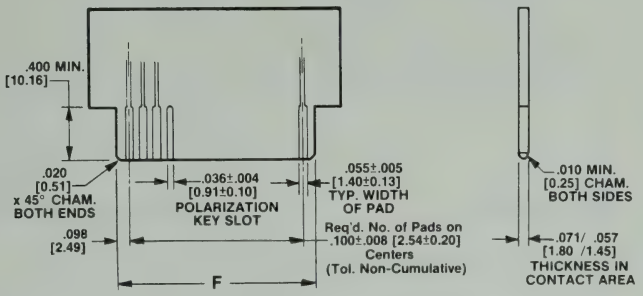
HALF MOUNTING EARS



WITHOUT MOUNTING EARS

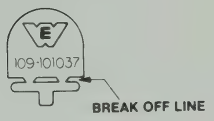


RECOMMENDED P.C. BOARD DIMENSIONS



Dimensions

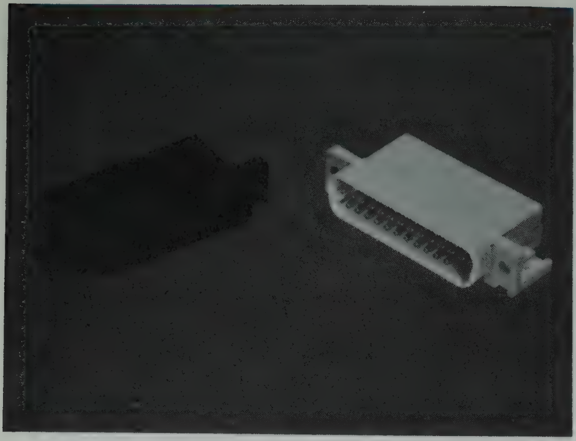
Catalog No.	A	B	C	D	E	F	G
53-10-	1.000 [25.40]	1.900 [48.26]	1.400 [35.56]	.605 [15.37]	1.300 [33.02]	.595 [15.11]	1.540 [39.12]
53-16-	1.300 [33.02]	2.200 [55.88]	1.700 [43.18]	.905 [22.99]	1.600 [40.64]	.895 [22.73]	1.840 [46.74]
53-20-	1.500 [38.10]	2.400 [60.96]	1.900 [48.26]	1.105 [28.07]	1.800 [45.72]	1.095 [27.81]	2.040 [51.82]
53-26-	1.800 [45.72]	2.700 [68.58]	2.200 [55.88]	1.405 [35.69]	2.100 [53.34]	1.395 [35.43]	2.340 [59.44]
53-30-	2.000 [50.80]	2.900 [73.66]	2.400 [60.96]	1.605 [40.77]	2.300 [58.42]	1.595 [40.51]	2.540 [64.52]
53-34-	2.200 [55.88]	3.100 [78.74]	2.600 [66.04]	1.805 [45.85]	2.500 [63.50]	1.795 [45.59]	2.740 [69.60]
53-40-	2.500 [63.50]	3.400 [86.36]	2.900 [73.66]	2.105 [53.47]	2.800 [71.12]	2.095 [53.21]	3.040 [77.22]
53-44-	2.700 [68.58]	3.600 [91.44]	3.100 [78.74]	2.305 [58.55]	3.000 [76.20]	2.295 [58.29]	3.240 [82.30]
53-50-	3.000 [76.20]	3.900 [99.06]	3.400 [86.36]	2.605 [66.17]	3.300 [83.82]	2.595 [65.91]	3.540 [89.92]
53-60-	3.500 [88.90]	4.400 [111.76]	3.900 [99.06]	3.105 [78.87]	3.800 [96.52]	3.095 [78.61]	4.040 [102.62]



Cat. No. 109-101037

47 Series

Right Angle Pin & Socket D-Sub



SERIES 47

RS232 & RS449 Compatible
Polyester Thermoplastic

Winchester Electronics' Right Angle D- Subminiature connectors for printed circuit boards offer proven performance and economy. They are fully intermateable with solder, insulation displacement type or crimp-on designs and are available in both pin and socket, with contact arrangements of 9, 15, 25, 37, and 50 positions.

The 47 Series connectors are molded in thermoplastic polyester with high strength Phosphor Bronze contacts. These circuit board connectors are ideal for computer, industrial controls and telecommunications applications which require a combination of low cost and high performance.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	> 5 x 10⁶ ohms
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Phosphor Bronze
Plating *(Mating end of contact)* **:**	15u Gold Over Nickel
(Tail end of contact) **:**	Tin Alloy
Current Rating:	1 amp

Connector may also be ordered in black insulator material by adding -4338 after the plating code.
EXAMPLE: Cat. No. 47-1125S-02-△-4338

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6	7
	47	- 11	**	S/P	- ◪	- ◐	- △

Step 1
Series Code:
Series 47

Step 2
Grid Pattern:
11 = 109" x 112"

Step 3
No. of Contacts:
09, 15, 25, 37, 50

Step 4
Contact Type:
S = Socket
P = Pin

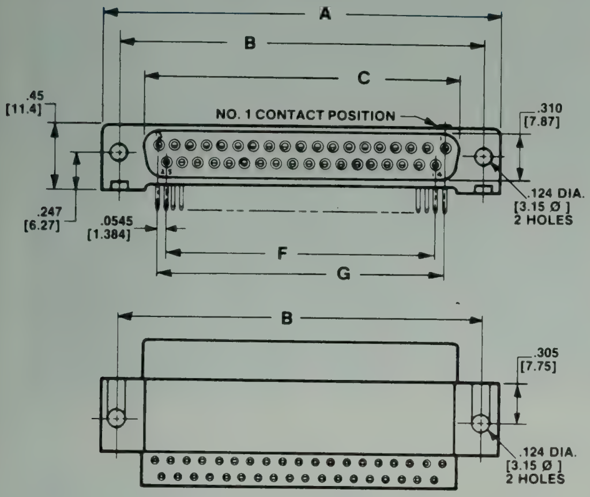
Step 5
Mating Hardware:
0 = .124" Dia. Thru-Hole
1 = #4-40 Threaded Flush Inserts
2 = #4-40 Threaded Standoff Bushings
3 = #4-40 Latches
4 = M3 Latches
6 = M3 Threaded Flush Inserts
7 = M3 Threaded Standoff Bushings

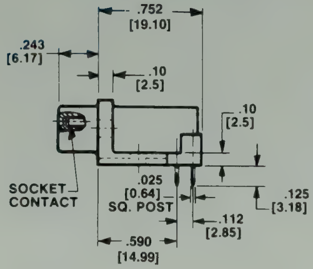
Step 6
Mounting Rivet Options:
2 = Without Mounting Rivets
3 = With Mounting Rivets For .093" & .125" P.C.B.
4 = With Mounting Rivets For .062" P.C.B.

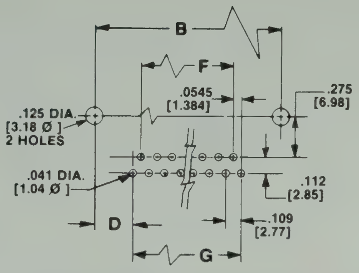
Mounting Rivets May Also Be Ordered Separately.

Step 7
Contact Plating:
Consult Sales Dept For Options

SOCKET CONNECTOR

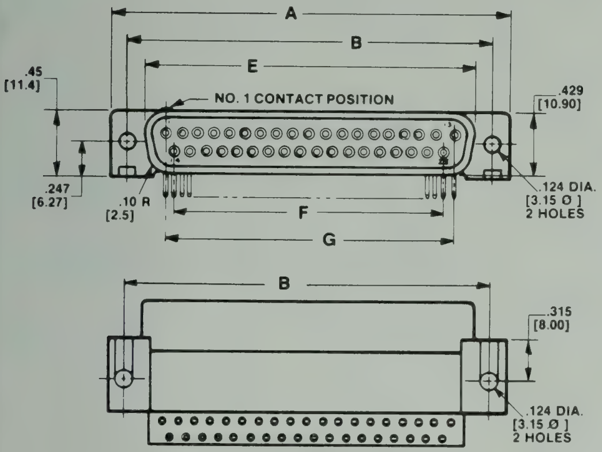


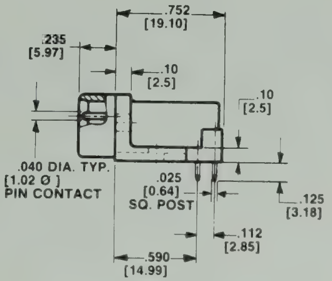




RECOMMENDED P.C. BOARD HOLE PATTERN
From Mounting Side of Board

PIN CONNECTOR

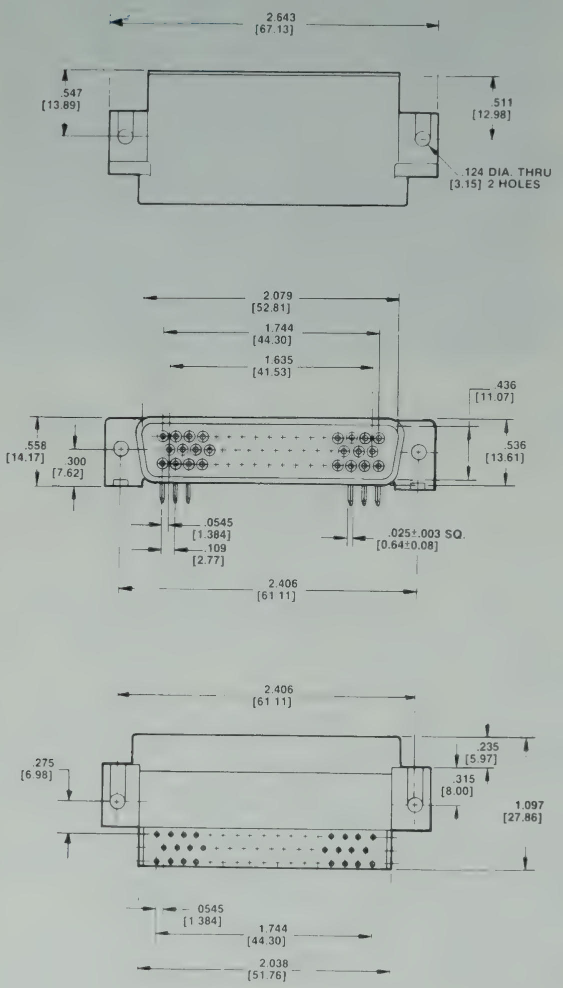




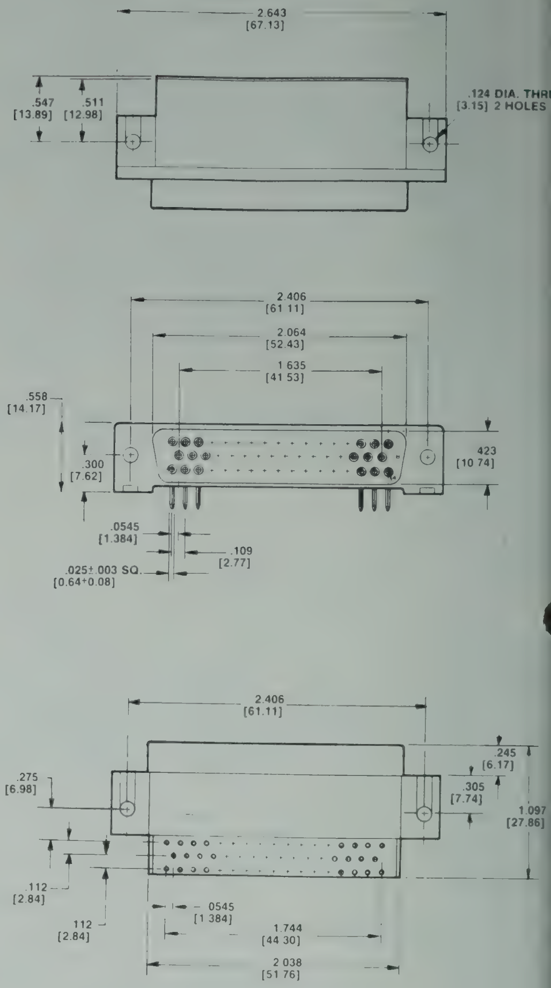
Pin & Socket Dimensions

Catalog No.	A	B	C	D	E	F	G
47-1109S 47-1109P	1.216 [30.89]	.984 [24.99]	.643 [16.33]	.274 [6.96]	.746 [18.95]	.327 [8.31]	.436 [11.07]
47-1115S 47-1115P	1.544 [39.22]	1.312 [33.32]	.971 [24.66]	.274 [6.96]	1.074 [27.28]	.654 [16.61]	.763 [19.38]
47-1125S 47-1125P	2.084 [52.93]	1.852 [47.04]	1.511 [38.38]	.272 [6.91]	1.614 [41.00]	1.199 [30.45]	1.308 [33.22]
47-1137S 47-1137P	2.732 [69.39]	2.500 [63.50]	2.159 [54.84]	.269 [6.83]	2.262 [57.45]	1.853 [47.07]	1.962 [49.83]

PIN CONNECTOR

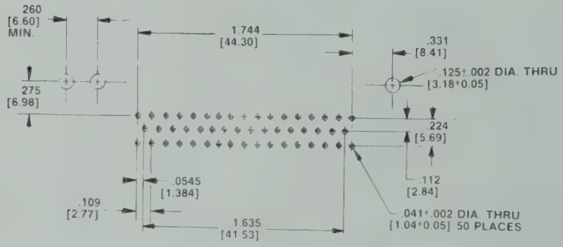


SOCKET CONNECTOR

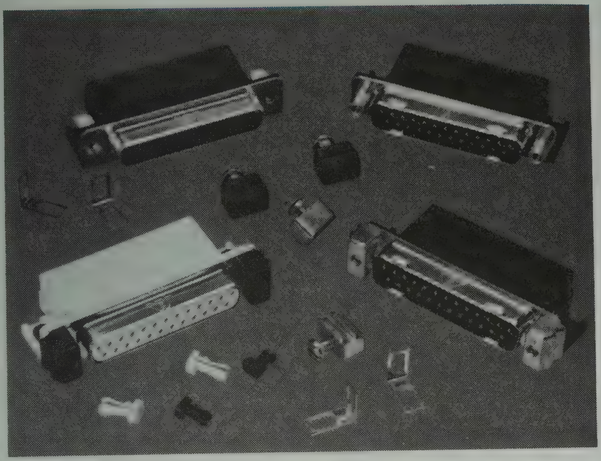


RECOMMENDED P.C. BOARD HOLE PATTERN

From Mounting Side of Board



Shielded Right Angle Pin & Socket D-Sub



SERIES 147

.109″ x .112″ Grid
Reduced EMI/RFI Emissions
Compatible with MIL-C-24308

Winchester Electronics has developed a highly effective noise shielding system to help reduce EMI/RFI emissions from electronic equipment in the telecommunications, data processing, industrial controls and electronic games industry.

Our exclusive bifurcated nylon mounting rivets shown here eliminate costly metal hardware and minimize the problem of loose nuts and washers during assembly.

These rivets feature ease of insertion without special tools, and hold the connector squarely in place during the wave soldering operation. They ensure a tight, nonmetallic bond on .062″ to .125″ P.C. boards for the life of the system.

In addition, we also offer optional grounding straps for designs not employing chassis grounds. These metal straps effectively link connectors with the printed circuit board.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	1000 VAC (sea level)
Insulation Resistance:	5 x 10^6 ohms
Operating Temperature:	-55° to +105° C.

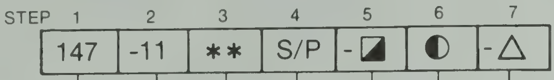
CONTACTS

Material:	Phosphor Bronze
Plating:	15u Gold Over Nickel on Mating End, Tin On Remainder. Options Available, Consult Sales
Current Rating:	1 amp
Contact Style:	Blade Design

Connectors may also be ordered in black insulator material by adding -4338 after the plating code.
***EXAMPLE:* Cat. No. 147-1115P-03-△-4338**

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1
Series Code:
Series 147

Step 2
Grid Pattern:
11 = .109″ x .112″

Step 3
No. of Contacts:
9, 15, 25, 37, 50

Step 4
Contact Type:
S = Socket
P = Pin

Step 5
Mating Hardware Options:
0 = .120″ Dia Thru-Hole
1 = #4-40 Threaded Flush Inserts
2 = #4-40 Threaded Standoff Bushings
3 = #4-40 Latches
4 = M3 Latches
5 = #4-40 Locking Inserts
6 = M3 Threaded Flush Inserts
7 = M3 Threaded Standoff Bushings
8 = Slide Mtg. Stud

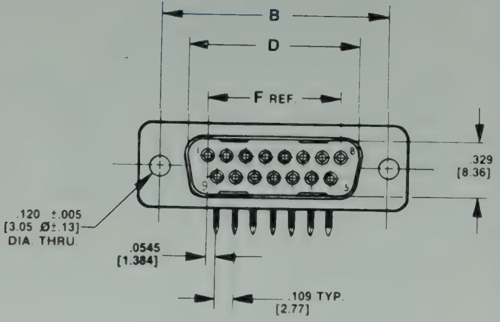
Step 6
Mounting Rivet Options:
2 = Without Mounting Rivets
3 = With Mounting Rivets for .093″ & .125″ P.C.B
4 = With Mounting Rivets for .062″ P.C.B

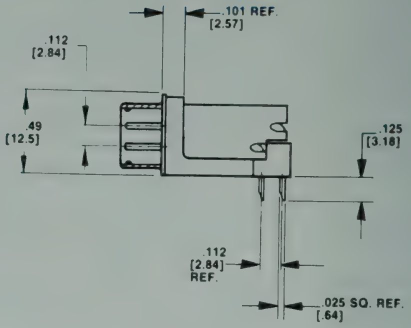
Mounting Rivets May Also Be Ordered Separately.

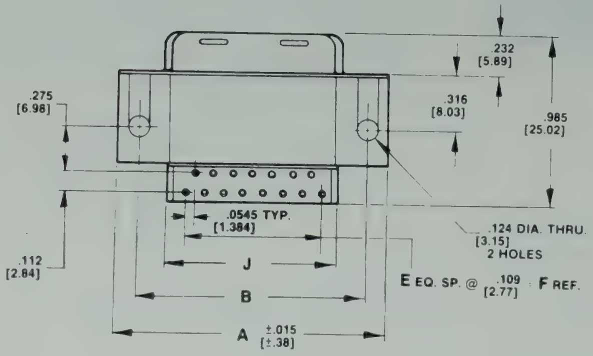
Step 7
Contact Plating:
Consult Sales Dept For Options

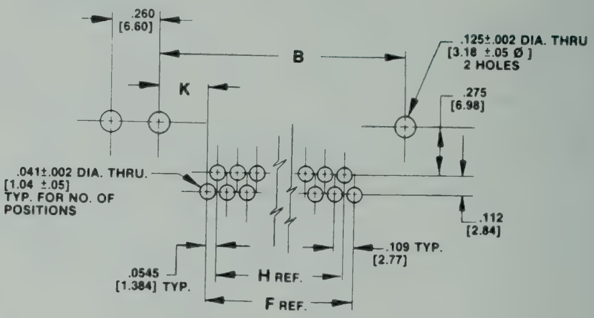
GROUNDING STRAP OPTIONS
ARE AVAILABLE

PIN CONNECTOR







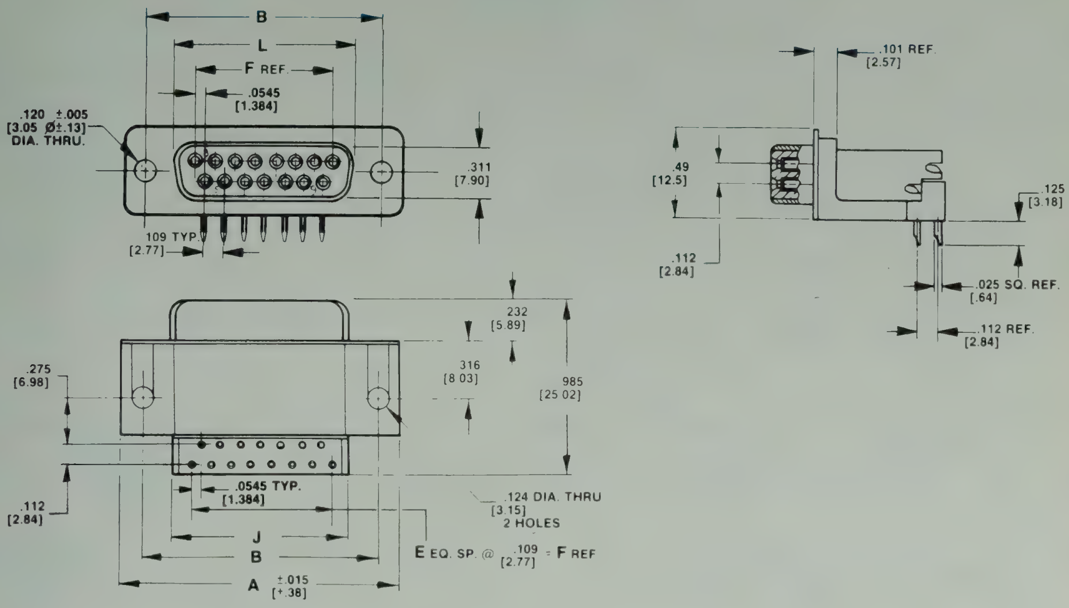


P.C. BOARD HOLE PATTERN
PIN AND SOCKET CONNECTOR

Dimensions

CATALOG NO.	A	B	D PIN	E	F REF	H REF	J	K	L SOCK
147-1109P- 147-1109S-	1.216 [30.89]	.984 [24.99]	.666 [16.92]	4	.436 [11.07]	.327 [8.31]	.643 [16.33]	.274 [6.96]	.643 [16.33]
147-1115P- 147-1115S-	1.544 [39.22]	1.312 [33.32]	.994 [25.24]	7	.763 [19.38]	.654 [16.61]	.971 [24.66]	.274 [6.96]	.971 [24.66]
147-1125P- 147-1125S-	2.084 [52.93]	1.852 [47.04]	1.534 [38.96]	12	1.308 [33.22]	1.199 [30.45]	1.511 [38.38]	.272 [6.91]	1.511 [38.38]
147-1137P- 147-1137S-	2.732 [69.39]	2.500 [63.50]	2.182 [55.42]	18	1.962 [49.83]	1.853 [47.07]	2.159 [54.84]	.269 [6.83]	2.159 [54.84]

SOCKET CONNECTOR

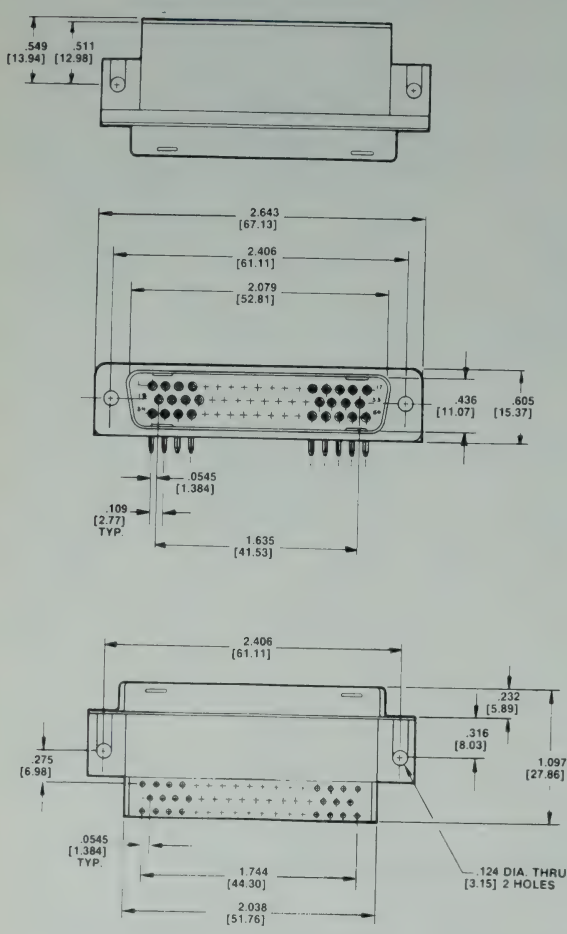


SERIES 147 GROUND STRAP DEVIATIONS

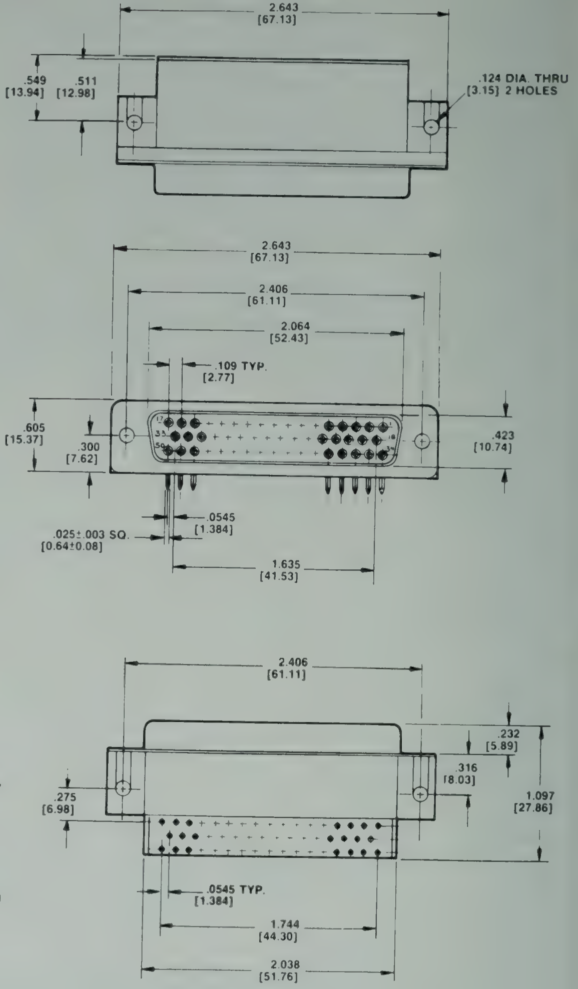
4446	#4-40 THREADED STANDOFFS WITH ONE GROUND STRAP ON THE NUMBER 1 POSITION SIDE MOUNTED BETWEEN THE STANDOFF - BUSHING AND THE METAL SHIELD
4473	#4-40 THREADED STANDOFF WITH TWO GROUND STRAPS MOUNTED BETWEEN EACH STANDOFF BUSHING AND THE METAL SHIELD
4451	TWO GROUND STRAPS, EACH MOUNTED BETWEEN THE SHIELD AND THE INSULATOR.
4479	TWO GROUND STRAPS WITH 2 FLUSH 4-40 INSERTS MOUNTED BETWEEN SHIELD AND INSULATOR.
4504	ONE GROUND STRAP WITH ONE 4-40 INSERT AND ONE GROUND STRAP ON RIGHT SIDE ONLY.
4502	TWO GROUND STRAPS WITH TWO SLIDE MOUNTING STUDS.
4506	TWO GROUND STRAPS AND TWO 4-40 THREADED FLUSH INSERTS. GROUND STRAPS ARE WITH TAILS.
4506	TWO GROUND STRAPS AND 4-40 THREADED STANDOFF BUSHINGS (2). GROUND STRAPS ARE WITH TAILS.
4510	TWO GROUND STRAPS MOUNTED BETWEEN SHIELD AND PLASTIC WITH TWO 4-40 STANDOFF BUSHINGS.
4519	TWO GROUND STRAPS AND TWO 4-40 THREADED FLUSH INSERTS. GROUND STRAPS ARE WITHOUT TAILS.
4519	TWO GROUND STRAPS AND 4-40 THREADED STANDOFF BUSHINGS (2). GROUND STRAPS ARE WITHOUT TAILS.

50 POSITION

PIN CONNECTOR

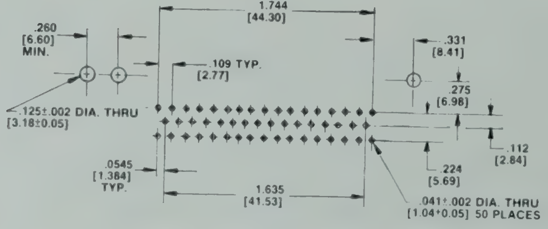


SOCKET CONNECTOR

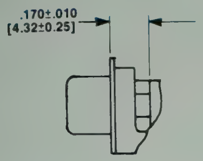


RECOMMENDED P.C. BOARD HOLE PATTERN

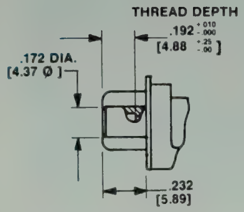
From Mounting Side of Board



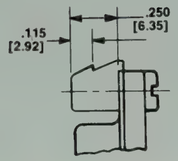
SERIES 47/147 MATING HARDWARE



#4-40 OR M3 THREADED FLUSH INSERT

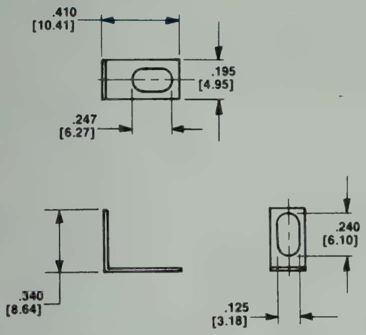


#4-40 OR M3 STANDOFF BUSHING



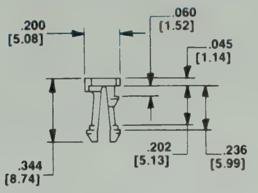
#4-40 OR M3 LATCH

SERIES 147
GROUND STRAP BRASS

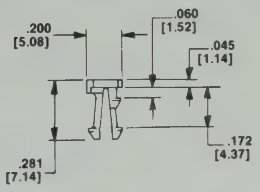


CAT. NO. 147-106230

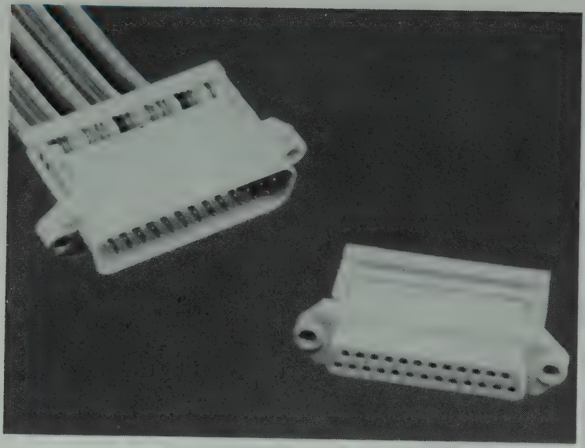
SERIES 47/147
NYLON MOUNTING RIVETS



CAT. NO. 147-106352 FOR .093" & .125" P.C.B.
COLOR: WHITE



CAT. NO. 147-106563 FOR .062" P.C.B.
COLOR: BLACK



SERIES 49

One-Step Assembly
RS232 & RS449 Compatible

D-Subminiature Pin and Socket connectors are ideal for applications where space and weight are primary considerations. They are available in sizes 9, 15, 25, and 37 contact positions.

Flex-Com Series 49 is intermateable with all standard MIL-C-24308 D-Subminiature connectors — both insulation displacement and solder type. Footprint and layout are compatible with RS232 and RS449 call-outs.

Standard Flex-Com D-Sub connectors are molded in white thermoplastic, with Phosphor Bronze contacts that are selectively plated to meet your performance/economy requirements.

Various mounting hardware options are available in the Flex-Com line to increase flexibility and allow optimum use over a wide range of applications.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

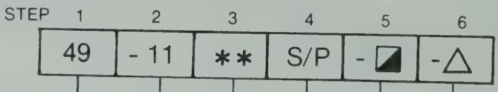
Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	> 1000 VAC (sea level)
Insulation Resistance:	> 5 x 10^6 ohms
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Phosphor Bronze
Plating:	15µ Gold Over Nickel on Mating End, 2 - 5µ Gold on Remainder. Options Available, Consult Sales.
Current Rating:	1 amp
Contact Style:	Blade Design

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1
Series Code:
Series 49

Step 2
Grid Pattern:
11 = .109" x .112"

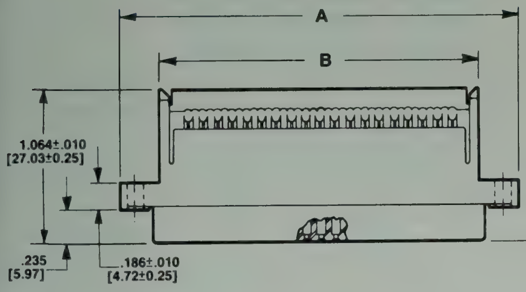
Step 3
No. of Contacts:
9, 15, 25, 37

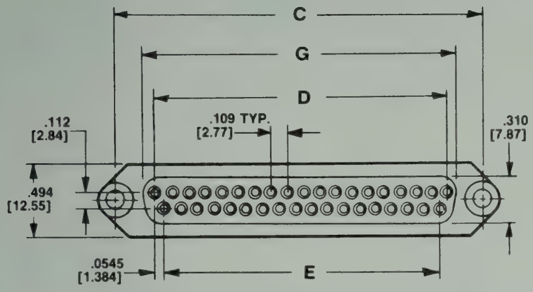
Step 4
Insulator:
S = Socket
P = Pin

Step 5
Mating Hardware:
0 = .124" Dia. Thru-Hole
1 = #4-40 Threaded Inserts
2 = #4-40 Threaded Standoff Bushings
6 = M3 Threaded Flush Inserts
7 = M3 Threaded Standoff Bushings

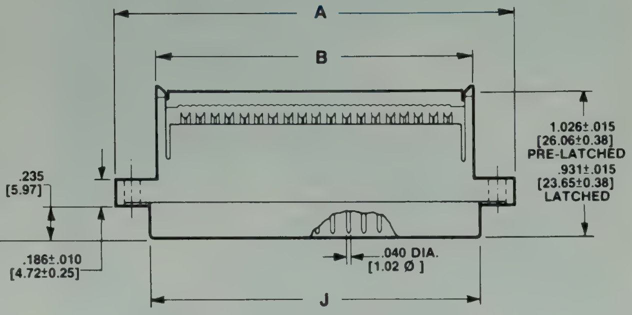
Step 6
Contact Plating:
Consult Sales Dept
For Options

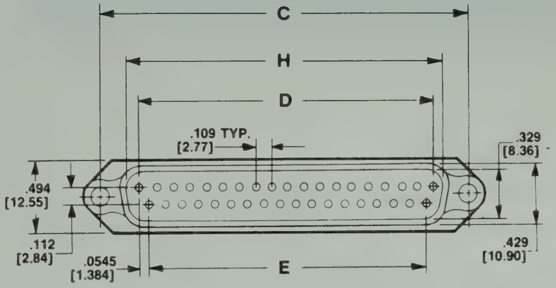
SOCKET CONNECTOR



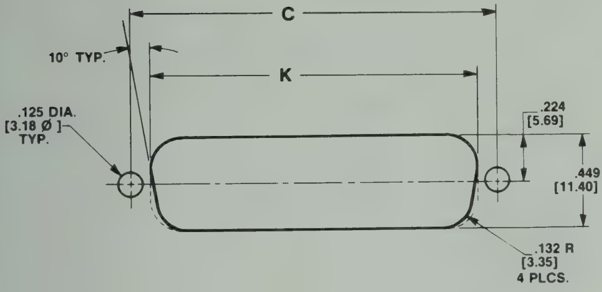


PIN CONNECTOR

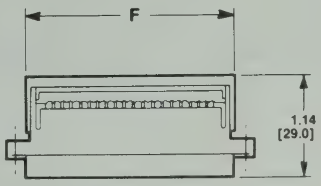




STANDARD CUTOUT
(Rear Mounting)
For D-Subminiature Connector



CONNECTOR ASSEMBLY WITH
STRAIN RELIEF

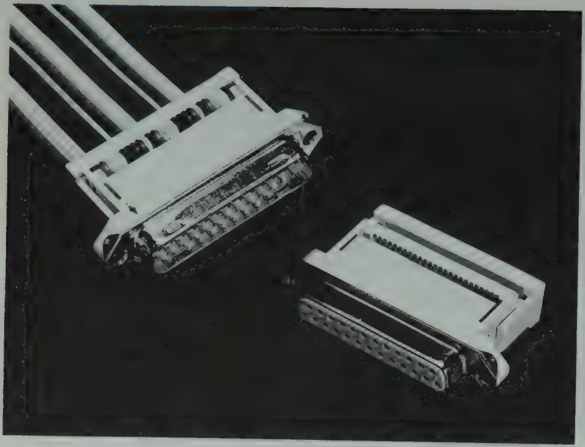


Dimensions

Catalog No.	A	B	C	D	E	F	G	H	J	K
49-1109S 49-1109P	1.216 [30.89]	.630 [16.00]	.984 [24.99]	.436 [11.07]	.327 [8.31]	.746 [18.95]	.643 [16.33]	.666 [16.92]	.746 [18.95]	.806 [20.47]
49-1115S 49-1115P	1.544 [39.22]	.957 [24.31]	1.312 [33.32]	.763 [19.38]	.654 [16.61]	1.073 [27.25]	.971 [24.66]	.994 [25.25]	1.074 [27.28]	1.134 [28.80]
49-1125S 49-1125P	2.084 [52.93]	1.502 [38.15]	1.852 [47.04]	1.308 [33.22]	1.199 [30.45]	1.618 [41.10]	1.511 [38.38]	1.534 [38.96]	1.614 [41.00]	1.674 [42.52]
49-1137S 49-1137P	2.732 [69.39]	2.156 [54.76]	2.500 [63.50]	1.962 [49.83]	1.853 [47.07]	2.272 [57.71]	2.159 [54.84]	2.182 [55.42]	2.262 [57.45]	2.322 [58.98]

OPTIONAL FEATURES ORDERED SEPARATELY. BACKSHELL. JACKSCREW SETS.

Shielded Pin & Socket D-Sub



SERIES 149

.109″ x .112″ Grid
Reduces EMI/RFI Emissions
RS232 & RS449 Compatible

These Winchester Electronics Series 149 connectors have shown a dramatic dampening effect on a wide spectrum of troublesome noise emissions. They are immediately available and universally compatible with the most preferred IC connection systems.

Flat cable mount D-Subminiature connectors are readily available with tin plated metal shielded front face. Flex-Com Series 149 connectors are fully intermateable with all MIL-C-24308 type D-Subminiature connectors.

Connectors are available in 9, 15, 25, and 37 positions in insulation displacement. Standard connectors are molded in thermoplastic polyester with high strength Phosphor Bronze contacts which can be selectively plated to meet performance/economy requirements.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS:

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Dielectric Strength:	1000 VAC (sea level)
Insulation Resistance:	5 x 10⁶ ohms
Operating Temperature:	-55° to +105° C

CONTACTS

Material:	Phosphor Bronze
Plating:	15u Gold Over Nickel on Mating End, Gold Flash on Remainder. Options Available, Consult Sales
Current Rating:	1 amp
Contact Style:	Blade Design

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6
149	-11	**	S/P	- ◪	- △

Step 1
Series Code:
Series 149

Step 2
Grid Pattern:
11 = .109″ x .112″

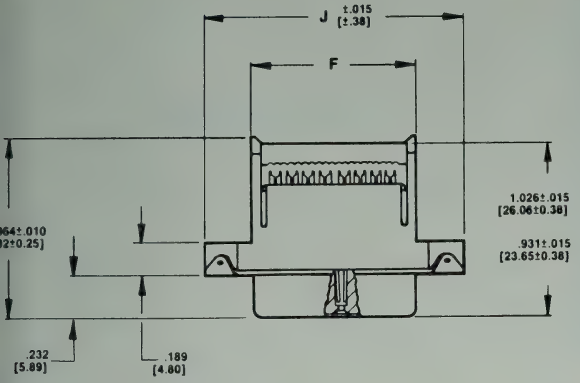
Step 3
No. of Contacts:
9, 15, 25, 37

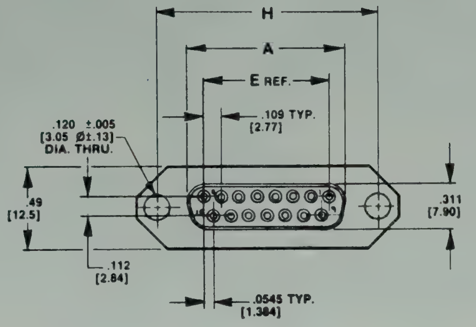
Step 4
Contact Type:
S = Socket
P = Pin

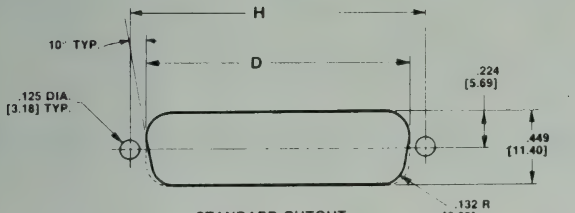
Step 5
Mating Hardware Options:
0 = .120″ Dia. Thru-Hole
1 = #4-40 Threaded Flush Inserts
2 = #4-40 Threaded Standoff Bushings
6 = M3 Threaded Flush Inserts
7 = M3 Threaded Standoff Bushings

Step 6
Contact Plating:
Consult Sales Dept
For Options

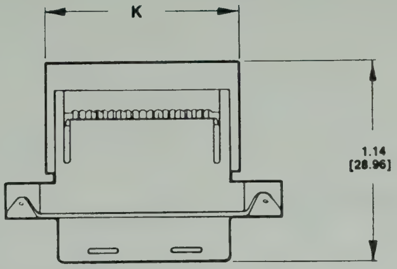
SOCKET CONNECTOR





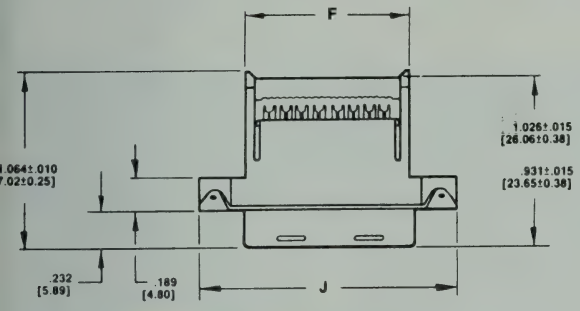


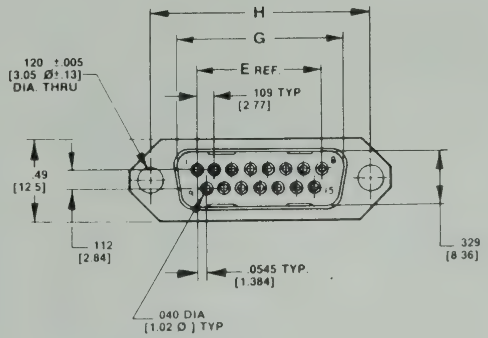
STANDARD CUTOUT
(Rear Mounting)
For Pin or Socket D-Subminiature Connector



PIN OR SOCKET CONNECTOR ASSEMBLY
WITH STRAIN RELIEF

PIN CONNECTOR

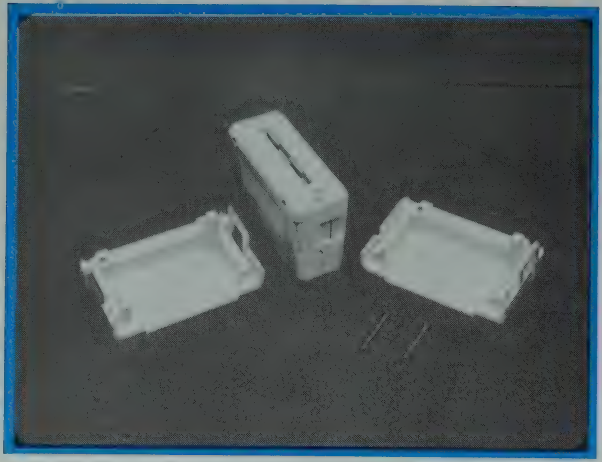




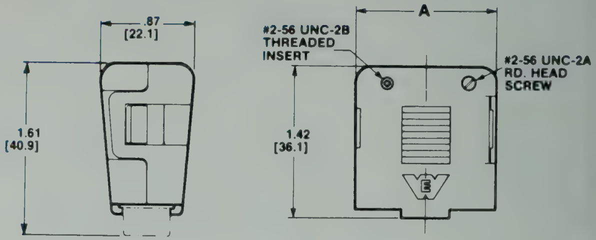
Dimensions

CATALOG NO.	A SOCK	D	E	F	G PIN	H	J	K
149-1109P- 149-1109S-	.643 [16.33]	.806 [20.47]	.436 [11.07]	.630 [16.00]	.666 [16.92]	.984 [24.99]	1.216 [30.89]	.746 [18.95]
149-1115P- 149-1115S-	.971 [24.66]	1.134 [28.80]	.763 [19.38]	.957 [24.31]	.994 [25.25]	1.312 [33.32]	1.544 [39.22]	1.073 [27.25]
149-1125P- 149-1125S-	1.511 [38.38]	1.674 [42.52]	1.308 [33.22]	1.502 [38.15]	1.534 [38.96]	1.852 [47.04]	2.084 [52.93]	1.618 [41.10]
149-1137P- 149-1137S-	2.159 [54.84]	2.322 [58.98]	1.962 [49.83]	2.156 [54.76]	2.182 [55.42]	2.500 [63.50]	2.732 [69.39]	2.272 [57.71]

Backshell/Strain Relief



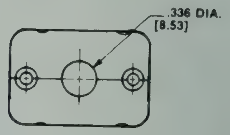
FOR USE WITH 49 SERIES
PIN AND SOCKET CONNECTORS



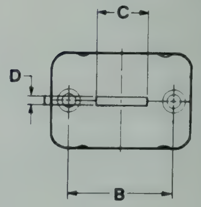
Dimensions

Catalog No.	A	B	C	D
49-1009-1	1.32 [33.5]	.984 [24.99]	.602 [15.29]	.170 [4.32]
49-1009-2			.482 [12.24]	.048 [1.22]
49-1009-3			.535 [13.59]	.116 [2.95]
49-1009-4&5			N/A	N/A
49-1015-1	1.64 [41.7]	1.312 [33.32]	.902 [22.91]	.170 [4.32]
49-1015-2			.782 [19.86]	.048 [1.22]
49-1015-3			.835 [21.21]	.116 [2.95]
49-1015-4&5			N/A	N/A
49-1025-1	2.18 [55.4]	1.852 [47.04]	1.402 [35.61]	.170 [4.32]
49-1025-2			1.282 [32.56]	.048 [1.22]
49-1025-3			1.335 [33.91]	.116 [2.95]
49-1025-4&5			N/A	N/A
49-1037-1	2.83 [71.9]	2.500 [63.50]	2.002 [50.85]	.170 [4.32]
49-1037-2			1.882 [47.80]	.048 [1.22]
49-1037-3			1.935 [49.15]	.116 [2.95]
49-1037-4&5			N/A	N/A

ROUND CABLE



FLAT CABLE



Ordering Chart: Specify complete connector by following indicated steps.

STEP 1	2	3	4
49	- 10	**	- ◪

Step 1
Series Code:
Series 49

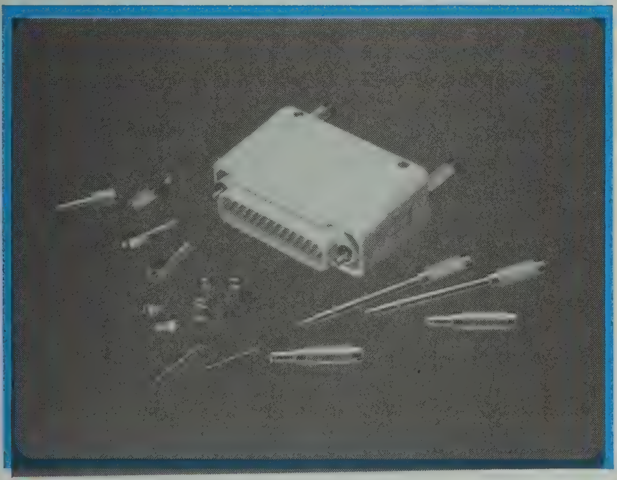
Step 2
Type:
10 = Backshell

Backshell to be used with 49-601 & 49-604 P/S Hardware only.

Step 3
No. of Contacts:
9, 15, 25, 37

Step 4
Cable Opening:
1 = For Jacketed Cable .165″ Thick
2 = For Standard Cable .034/.045″ Thick
3 = For Jacketed Cable .110″ Thick
4 = No Cable Opening
5 = For Round Cable .336″ Dia.

Series 49 - Hardware Assemblies



Cat. No. 107-0132
Retaining Ring Applicator

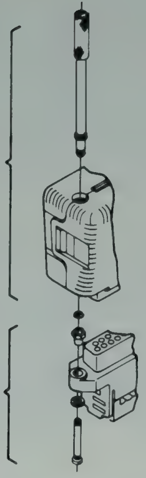
Used to install 49-601 S & 49-602 S Jacksocket.

Cat. No. 107-0109
E-Ring Applicator

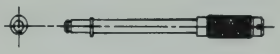
Used to install 49-603 P & 49-604 P Jackscrew.

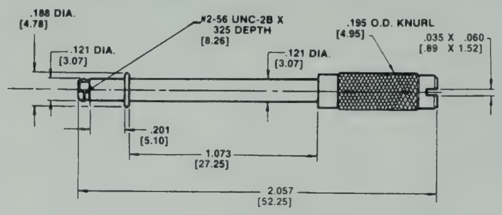
#2-56 THREAD - *For use with backshell/strain relief.*

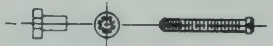
Cat. No. 49-601 S
Jacksocket Assembly
(2 each)

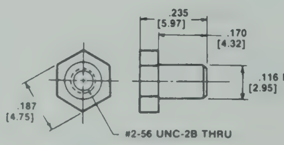


Cat. No. 49-601 P
Jackscrew Assembly
(2 each)

Item	Catalog No.	Assemblies Per Bag
 JACKSOCKET Mates with 49-601 P	49-601 S	1 Pair

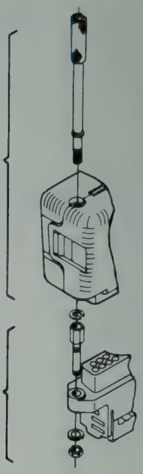


Item	Catalog No.	Assemblies Per Bag
 JACKSCREW Mates with 49-601 S	49-601 P	1 Pair

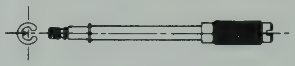


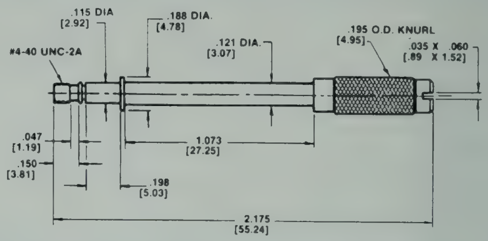
#4-40- THREAD - *For use with backshell/strain relief.*

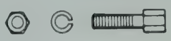
Cat. No. 49-604 P
Jackscrew Assembly
(2 each)

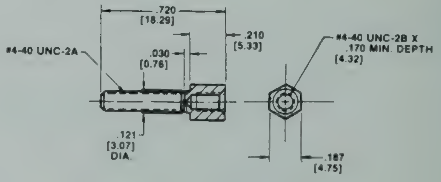


Cat. No. 49-603 S
Jacksocket Assembly
(2 each)

Item	Catalog No.	Assemblies Per Bag
 JACKSCREW Mates with 49-603 S	49-604 P	1 Pair



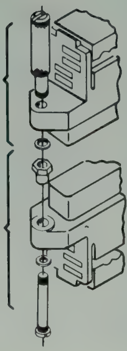
Item	Catalog No.	Assemblies Per Bag
 JACKSOCKET Mates with 49-603 P and 49-604 P	49-603 S	1 Pair



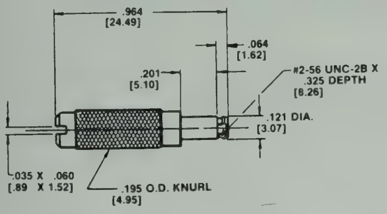
#2-56 THREAD - *For use without backshell/strain relief.*

Cat. No. 49-602 S
Jacksocket Assembly
(2 each)

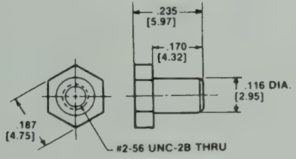
Cat. No. 49-602 P
Jackscrew Assembly
(2 each)



Item	Catalog No.	Assemblies Per Bag
 JACKSOCKET Mates with 49-602 P	49-602 S	1 Pair



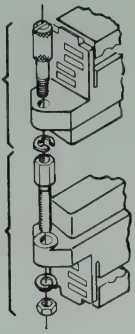
Item	Catalog No.	Assemblies Per Bag
 JACKSCREW Mates with 49-602 S	49-602 P	1 Pair



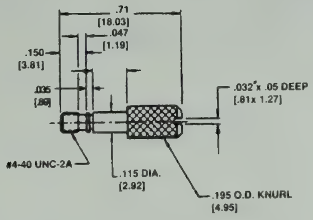
#4-40 THREAD - *For use without backshell/strain relief.*

Cat. No. 49-603 P
Jackscrew Assembly
(2 each)

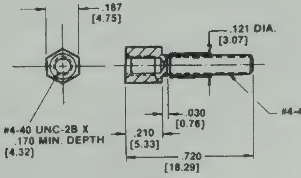
Cat. No. 49-603 S
Jacksocket Assembly
(2 each)



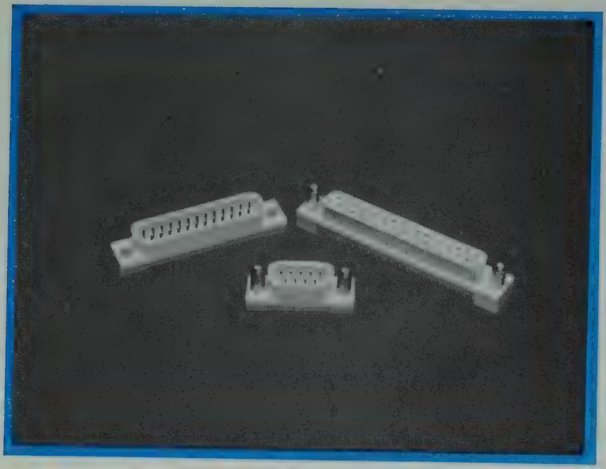
Item	Catalog No.	Assemblies Per Bag
 JACKSCREW Mates with 49-603 S	49-603 P	1 Pair



Item	Catalog No.	Assemblies Per Bag
 JACKSOCKET Mates with 49-603 P and 49-604 P	49-603 S	1 Pair



Vertical D-Sub With DIP Solder Tails



SERIES 165

Vertical Board Mount
Solder Type
.109" x .112" Grid

With this board-mounted D-Subminiature connector, input/output lines can be brought directly to any location on the P.C. backpanel. They meet RS232 and RS449 standards and mate with all existing D-Subminiature product types.

Available in both pin and socket versions, the Winchester Electronics Series 165 can be specified with 9, 15, 25, or 37 contact positions. Two solder tail lengths are designed for use with the .040"±.003" dia. holes on .062" to .125" thick printed circuit boards.

Specifications

ELECTRICAL CHARACTERISTICS:

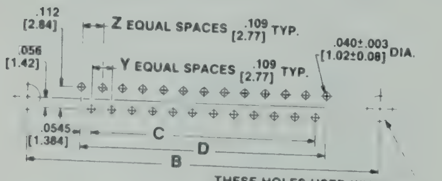
INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	White
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	*Socket* - Beryllium Copper *Pin* - Copper Alloy 725
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales
Current Rating:	1 amp

RECOMMENDED P.C. BOARD HOLE PATTERN


.112
[2.84]
.056
[1.42]
Z EQUAL SPACES .109 [2.77] TYP.
Y EQUAL SPACES .109 [2.77] TYP.
.040±.003
[1.02±0.08] DIA.
.0545
[1.384]
C
D
B

THESE HOLES USED WHEN SCREWS ARE USED TO MOUNT CONNECTOR TO P.C. BOARD

.136 [3.45] DIA. FOR #4-40 BUSHING OR #4-40 INSERT

.106 [2.69] DIA. FOR #2-56 BUSHING OR #2-56 INSERT

Ordering Chart: Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6	7
165	-11	**	S/P	- ◺	- ◐	- △

Step 1
Series Code:
Series 165

Step 2
Grid Pattern:
11 = .109" x .112"

Step 3
No. of Contacts:
9, 15, 25, 37

Step 4
Insulator:
S = Socket
P = Pin

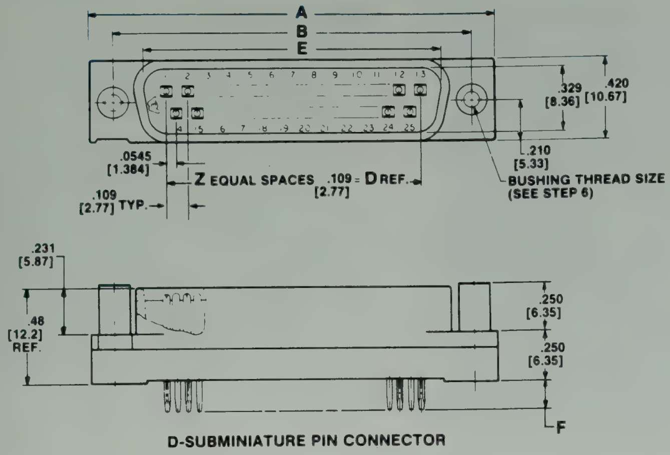
Step 5
Contact Tail Length (Dim. F):
1 = .125" (for .062" P.C. Board)
2 = .170" (for .093" & .125" P.C. Board)

Step 6
Mounting Options:
0 = .168" Dia. Thru-Hole
1 = #4-40 UNC Standoffs
2 = #2-56 UNC Standoffs
3 = #4-40 UNC Inserts
4 = #2-56 UNC Inserts
5 = Latch with #4-40 Bushings
6 = Latch without Bushings

Step 7
Contact Plating:
Consult Sales Dept.
For Options

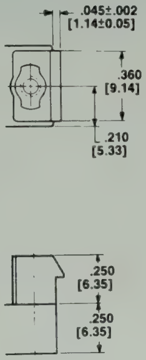
Connector may also be ordered in black insulator material by adding -4338 after the plating code.
EXAMPLE: Cat. No. **165-1125S-12-△-4338**

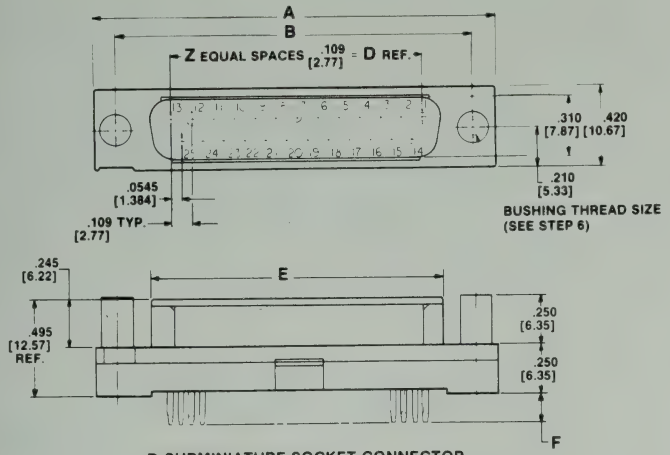
Vertical D-Sub With DIP Solder Tails



D-SUBMINIATURE PIN CONNECTOR

Latch Options Available With or Without #4-40 UNC Threaded Bushing

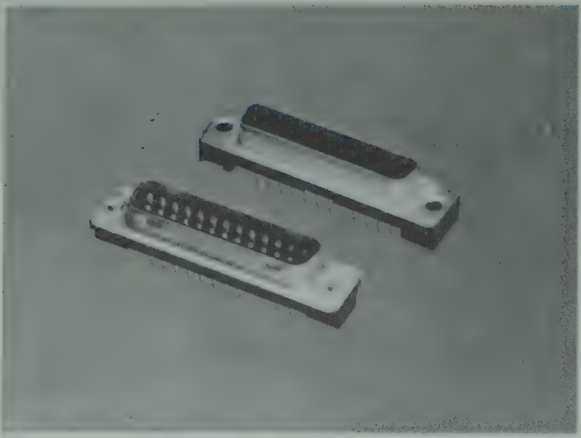




D-SUBMINIATURE SOCKET CONNECTOR

Dimensions

Catalog No.	A	B	C	D	E	F	Y	Z
165-1109S-	1.222 [31.04]	.984 [24.99]	.327 [8.31]	.436 [11.07]	.640 [16.26]	.125" (for .062" Thick P.C. Board)	3	4
165-1109P-					.666 [16.92]			
165-1115S-	1.550 [39.37]	1.312 [33.32]	.654 [16.61]	.763 [19.38]	.968 [24.59]		6	7
165-1115P-					.994 [25.25]			
165-1125S-	2.090 [53.09]	1.852 [47.04]	1.199 [30.45]	1.308 [33.22]	1.508 [38.30]	.170" (for .093" & .125" Thick P.C. Board)	11	12
165-1125P-					1.534 [38.96]			
165-1137S-	2.738 [69.55]	2.500 [63.50]	1.853 [47.07]	1.962 [49.83]	2.156 [54.76]		17	18
165-1137P-					2.182 [55.42]			



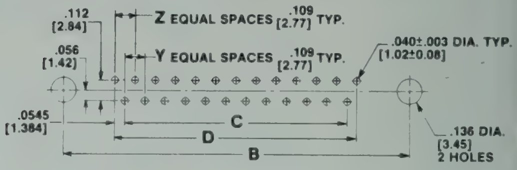
SERIES 167

Reduced EMI/RFI Emissions
RS232 & RS449 Compatible
Multiple Hardware Options

Input/output lines can be brought directly to any location on the P.C. backpanel using these Flex-Com D-Subminiature connectors. These shielded, vertical board-mounted connectors meet RS232 and RS449 standards and mate with all existing D-Subminiature product types.

Available in both pin and socket versions, the Flex-Com Series 167 can be specified with 9, 15, 25, or 37 contact positions. Two solder tail lengths are designed for use with .040"±.003" dia. holes on .062" to .125" thick printed circuit boards.

RECOMMENDED P.C. BOARD HOLE PATTERN


.112 [2.84]
Z EQUAL SPACES .109 [2.77] TYP.
.056 [1.42]
Y EQUAL SPACES .109 [2.77] TYP.
.040±.003 DIA. TYP. [1.02±0.08]
.0545 [1.384]
C
D
B
.136 DIA. [3.45] 2 HOLES

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	Black
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	*Socket* - Beryllium Copper *Pin* - Copper Alloy 725
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales
Current Rating:	1 amp

Connector may be ordered with ground straps.
Add -4514 after the plating code.
Example: 167-1125P15-4514

Ordering Chart:

Specify complete connector by following indicated steps.

STEP 1	2	3	4	5	6	7
167	- 11	✱✱	S/P	- ◺	- ◐	- △

Step 1
Series Code:
Series 167

Step 2
Grid Pattern:
11 = .109" x .112"

Step 3
No. of Contacts:
9, 15, 25, 37

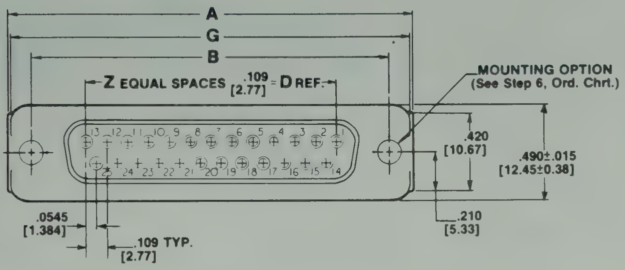
Step 4
Insulator:
S = Socket
P = Pin

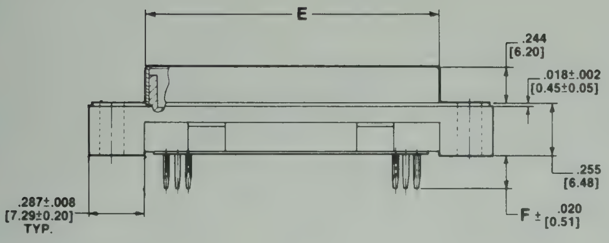
Step 5
Contact Tail Length (Dim. F):
1 = .125" (for .062" P.C. Board)
2 = .160" (for .093" & .125" P.C. Board)

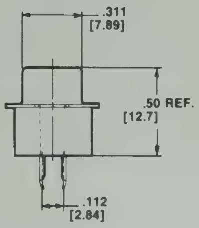
Step 6
Mounting Options:
0 = .125" Dia. Thru-Hole
1 = #4-40 UNC Latches
2 = M3 Latches
3 = #4-40 UNC Standoffs
4 = #2-56 UNC Standoffs
5 = #4-40 UNC Inserts
6 = #2-56 UNC Inserts
7 = Ground Straps With Thru Holes
8 = #4-40 UNC Ground Standoffs
9 = #2-56 UNC Ground Standoffs

Step 7
Contact Plating:
Consult Sales Dept.
For Options

SOCKET CONNECTOR





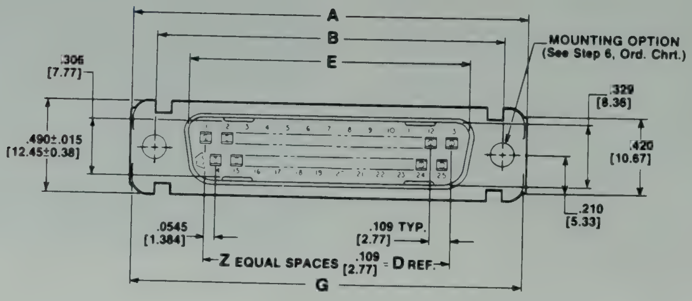


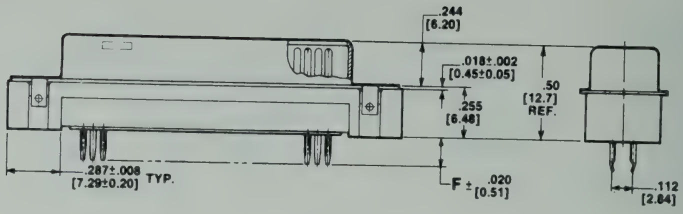
Dimensions

Catalog No.	A ±.006	B	C	D	E	F	G ±.015	Y	Z
167-1109S-	1.222 [31.04]	.984 [24.99]	.327 [8.31]	.436 [11.07]	.643 [16.33]	.125" (for .062" Thick P.C. Board)	1.213 [30.81]	3	4
167-1109P-					.666 [16.92]				
167-1115S-	1.550 [39.37]	1.312 [33.32]	.654 [16.61]	.763 [19.38]	.971 [24.66]		1.541 [39.14]	6	7
167-1115P-					.994 [25.25]				
167-1125S-	2.090 [53.09]	1.852 [47.04]	1.199 [30.45]	1.308 [33.22]	1.511 [38.38]	.160" (for .093" & .125" Thick P.C. Board)	2.088 [53.04]	11	12
167-1125P-					1.534 [38.96]				
167-1137S-	2.738 [69.55]	2.500 [63.50]	1.853 [47.07]	1.962 [49.83]	2.159 [54.84]		2.729 [69.32]	17	18
167-1137P-					2.182 [55.42]				

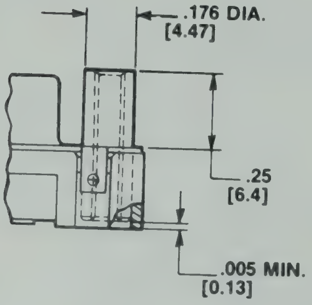
167 Series

PIN CONNECTOR

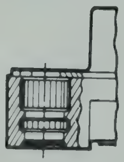




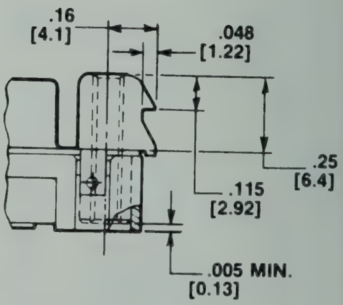
Pin & Socket Mounting Options



#4-40 OR M3 STANDOFF BUSHING



#4-40 OR M3 INSERT



#4-40 OR M3 LATCH

Rt. Angle Plug & Recept. Telecom

Series 106

Winchester Electronics offers a metal shell, right angle telecommunications connector to complement our vertical 166/266 Series. The Series 106 is IEEE 488 compatible and EMI/RFI shielded. Both plug and receptacle are available in sizes 24, 36 and 50. A variety of mounting hardware is available upon request. This connector is PCB mountable using standard .040″ round holes on a .085″ x .169″ grid.

The Series 106 is widely used as a standard I/O interface for the telecommunications and computer industry, providing high reliability at competitive prices. Winchester Electronics offers a variety of products for your every connector need and remains the "New Technology People."

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced, Rated 94V-0 *Shield* - Bright Tin-Lead
Color:	Black
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105°C.

CONTACTS

Material:	Beryllium Copper
Current Rating:	1 amp
Plating:	15 Au On Mating End, Tin-Lead On Remainder Consult Sales Dept. For Options

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5	6	7
	106	✱✱	P/R	◪	◐	◺	-△

Step 1
Series Code:
Series 106

Step 2
No. of Contacts:
24, 36, 50

Step 3
Molding Type:
P = Plug
R = Receptacle

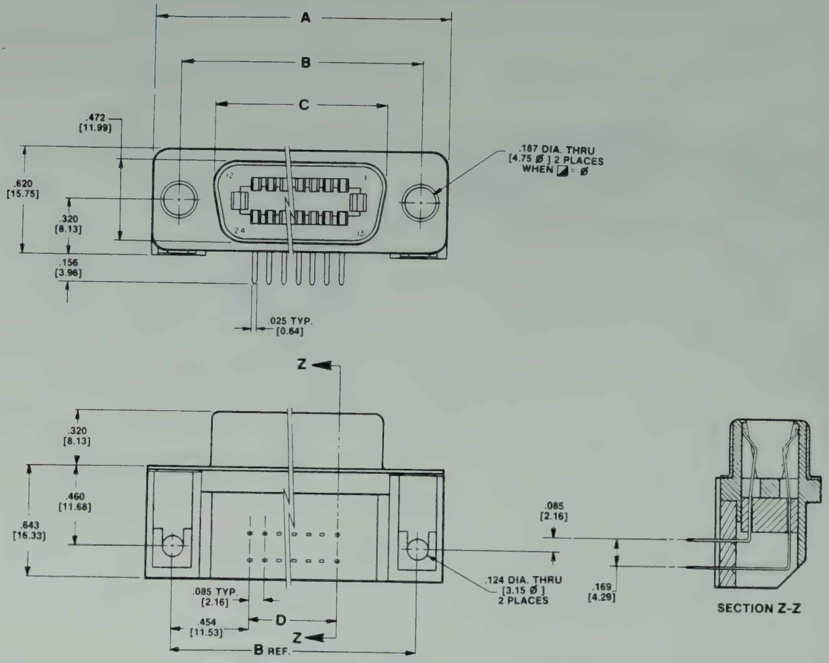
Step 4
Mating Hardware:
0 = .187″ Dia. Thru Hole
1 = #4-40 Threaded Flush Insert

Step 5
Mounting Rivet Option:
2 = Without Rivet
3 = With Rivet for .093″ & .125″ P.C.B
4 = With Rivet for .062″ P.C.B

Step 6
Ground Strap Option:
0 = Without Ground Straps
1 = With Ground Straps

Step 7
Contact Plating:
Consult Sales Dept. For Options

TO ORDER ITEMS SEPARATELY:
Mounting Rivet (◐ = 3):
Cat. No. 147-106352
Mounting Rivet (◐ = 4):
Cat. No. 147-106563

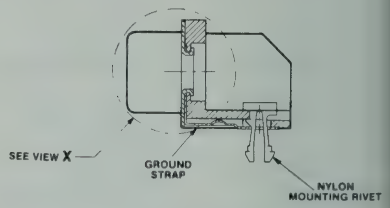


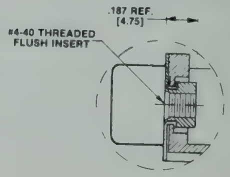
CAT. NO. 106-24R-020 △

Dimensions

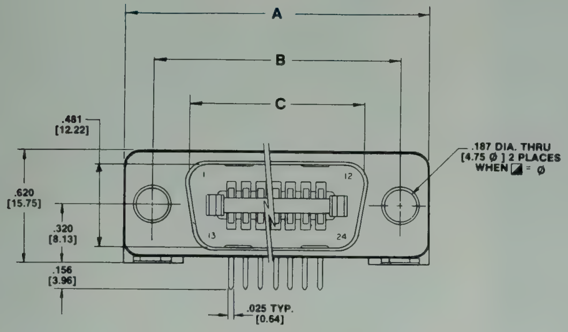
CATALOG NUMBER	A	B	C	D
106-24P- 106-24R-	2.16 [54.9]	1.842 [46.79]	1.437 [36.50] 1.419 [36.04]	.935 [23.75]
106-36P- 106-36R-	2.68 [68.1]	2.352 [59.74]	1.938 [49.23] 1.920 [48.77]	1.445 [36.70]
106-50P- 106-50R-	3.27 [83.1]	2.947 [74.85]	2.538 [64.46] 2.520 [64.01]	2.040 [51.82]

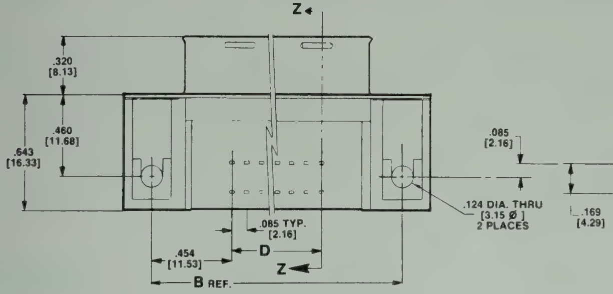
RECEPTACLE CONNECTOR

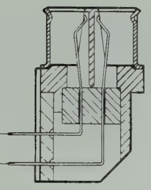




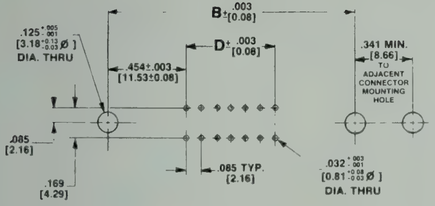
VIEW X





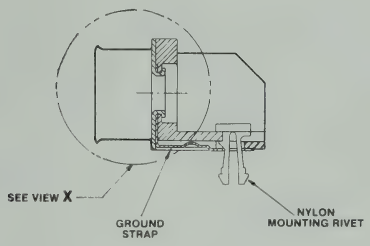

SECTION Z-Z

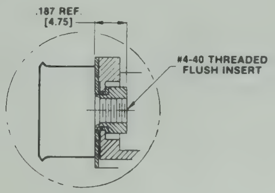
CAT. NO. 106-24P-020 △



RECOMMENDED PRINTED CIRCUIT BOARD HOLE PATTERN

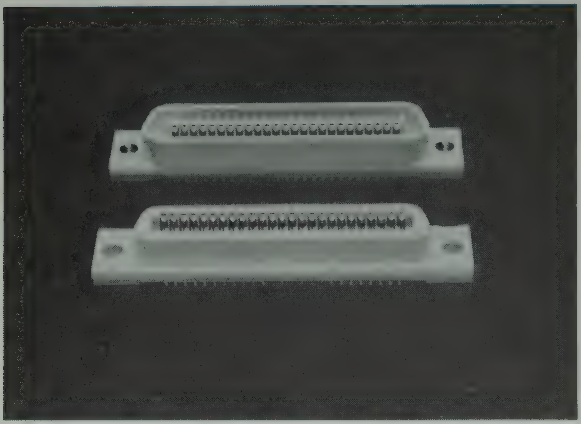
PLUG CONNECTOR





VIEW X

166 Series Pre-Assembled Telecom Connector



SERIES 166

Vertical Board Mount

Plug:

.085" x .151" and .085" x .160" Grid

Receptacle:

.085" x .169" and .085" x .160" Grid

Winchester Electronics offers you a Delta Ribbon connector in two tail lengths, .125" and .170" to accommodate .062" to .125" thick P.C. boards.

Flex-Com Series 166 connectors are available in both the plug and receptacle with two grid patterns - PLUG: .085" x .151" and .085" x .160" - RECEPTACLE: .085" x .169" and .085" x .160". Sizes 14, 24, 36 and 50 are available in both plug and receptacle. Latching and screw lock hardware kits are available.

For dependable electrical/mechanical performance, this connector features Copper Alloy 725 contacts with gold over nickel on the mating end and tin on the tail.

Specifications

ELECTRICAL CHARACTERISTICS:

INSULATORS

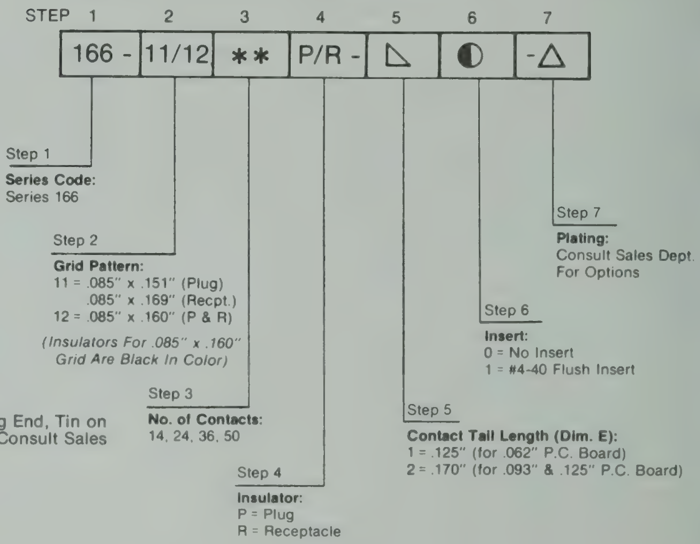
Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	.085" x .151" Grid, White .085" x .169" Grid, White .085" x .160" Grid, Black
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Copper Alloy 725
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales
Current Rating:	1 amp

Ordering Chart:

Specify complete connector by following indicated steps.



Step 1
Series Code:
Series 166

Step 2
Grid Pattern:
11 = .085" x .151" (Plug)
.085" x .169" (Recpt.)
12 = .085" x .160" (P & R)
(Insulators For .085" x .160" Grid Are Black In Color)

Step 3
No. of Contacts:
14, 24, 36, 50

Step 4
Insulator:
P = Plug
R = Receptacle

Step 5
Contact Tail Length (Dim. E):
1 = .125" (for .062" P.C. Board)
2 = .170" (for .093" & .125" P.C. Board)

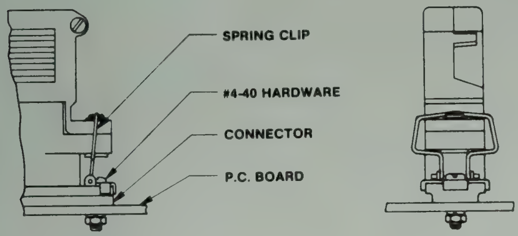
Step 6
Insert:
0 = No Insert
1 = #4-40 Flush Insert

Step 7
Plating:
Consult Sales Dept.
For Options

Telephone Connector Hardware

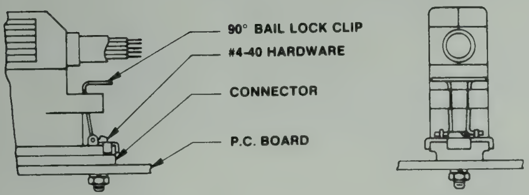
MATING CONNECTOR WITH BACKSHELL

KIT CAT. NO. 166-101

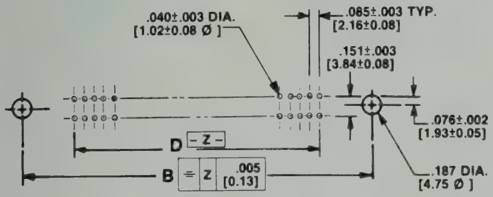


MATING CONNECTOR WITH 90° CABLE

KIT CAT. NO. 166-102



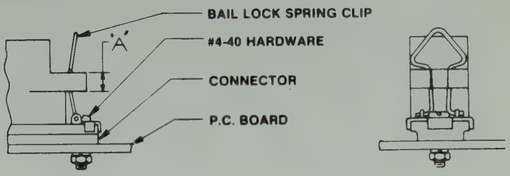
PLUG P.C. BOARD HOLE PATTERN - .085" x .151" GRID



MATING CONNECTOR WITH BAIL LOCK EARS

* *KIT CAT. NO. 166-104* **("A" = .19)**
KIT CAT. NO. 166-105 **("A" = .09)**

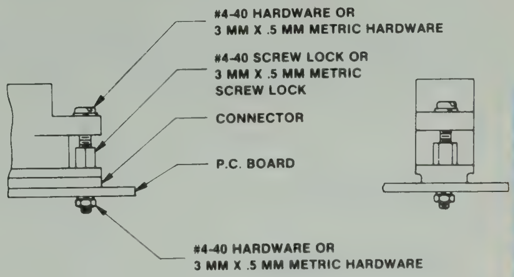
* **Winchester Electronics Standard**



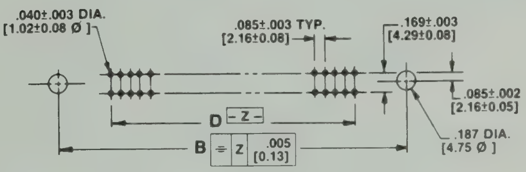
MATING CONNECTOR WITH MTG. HOLE

INCHES: KIT CAT. NO. 166-103
METRIC: KIT CAT. NO. 166-106

(THIS KIT CAN ONLY BE USED ON CONNECTOR WITHOUT INSERTS)

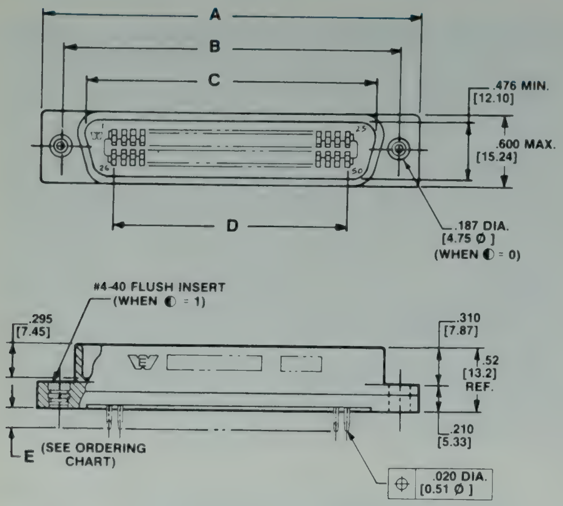


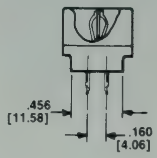
RECEPTACLE P.C. BOARD HOLE PATTERN - .085" x .169" GRID



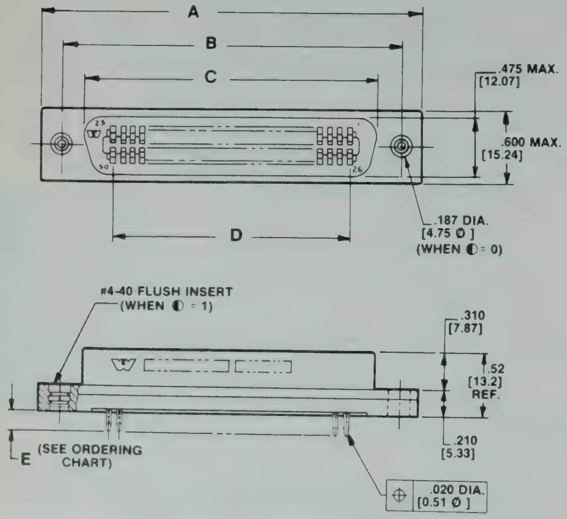
166 Series Pre-Assembled Telecom Connector

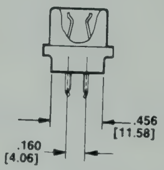
PLUG CONNECTOR
.085" x .160" GRID



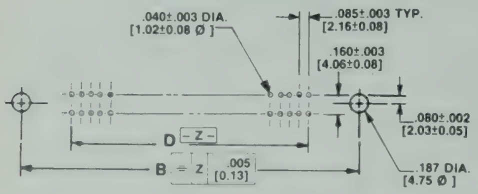


RECEPTACLE CONNECTOR
.085" x .160" GRID





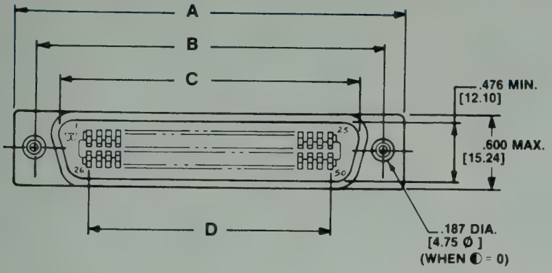
PLUG & RECEPTACLE P.C. BOARD HOLE PATTERN - .085" x .160" GRID

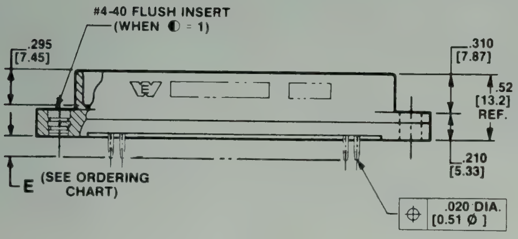


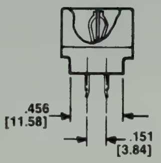
Dimensions

CATALOG NO.	A	B	C	D
166-1114P- 166-1214P-	1.745 [44.32]	1.417 [35.99]	1.004 [25.50]	.510 [12.95]
166-1114R- 166-1214R-			.997 [25.32]	
166-1124P- 166-1224P-	2.170 [55.12]	1.842 [46.79]	1.429 [36.30]	.935 [23.75]
166-1124R- 166-1224R-			1.422 [36.12]	
166-1136P- 166-1236P-	2.680 [68.07]	2.352 [59.74]	1.939 [49.25]	1.445 [36.70]
166-1136R- 166-1236R-			1.932 [49.07]	
166-1150P- 166-1250P-	3.275 [83.19]	2.947 [74.85]	2.534 [64.36]	2.040 [51.82]
166-1150R- 166-1250R-			2.527 [64.19]	

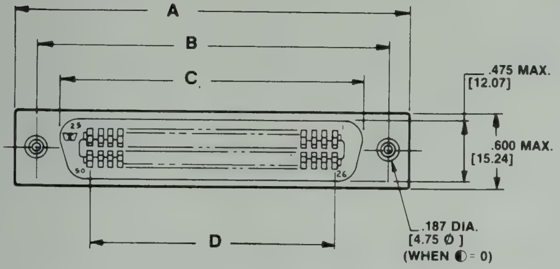
PLUG CONNECTOR
.085" X .151" GRID

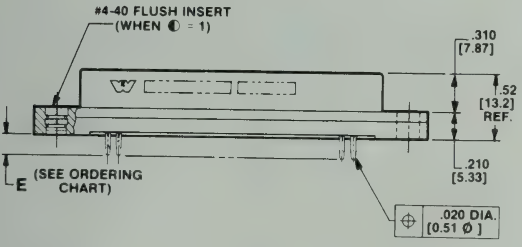


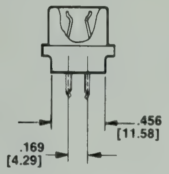




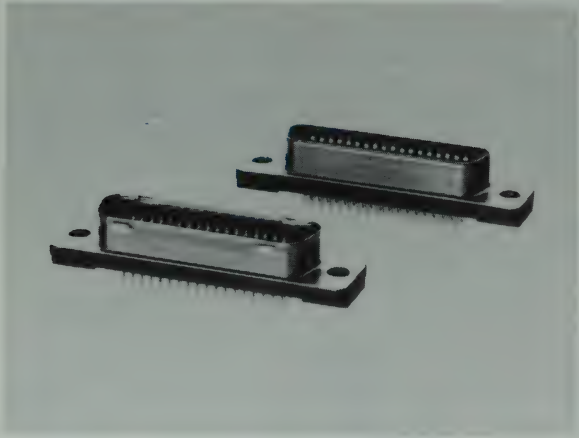
RECEPTACLE CONNECTOR
.085" x. 169" GRID







Shielded Telecom Plug & Recept.



SERIES 266

Vertical Board Mount
Plug:
.085" x .160" Grid
Receptacle:
.085" x .160" Grid

Winchester Electronics now offers IEEE 488 mateable shielded PCB connectors with two tail lengths, .125" and .170". As with our other Flex-Com products, the 266 Series is shipped to you pre-assembled for easy installation to your PCB.

Connectors are available in both plug and receptacle with .085" x .160" grid pattern. They are both available in 24, 36 and 50 position configurations. A variety of screw lock hardware kits increases your application options. Grounding strap options are also available.

For dependable electrical/mechanical performance, the Flex-Com Series 266 connector features Copper Alloy 725 contacts with selective gold over nickel on the mating end and tin on the tail.

Specifications

ELECTRICAL CHARACTERISTICS:

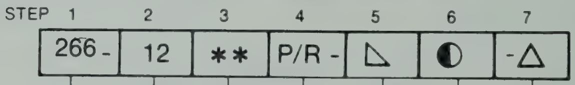
INSULATORS

Material:	Polyester Thermoplastic, Glass Reinforced - Rated 94V-0
Color:	Black
Insulation Resistance:	5,000 Megohms (min.)
Operating Temperature:	-55° to +105° C.

CONTACTS

Material:	Copper Alloy 725
Plating:	15u Gold Over Nickel on Mating End, Tin on Remainder. Options Available, Consult Sales
Current Rating:	1 amp

Ordering Chart: Specify complete connector by following indicated steps.



Step 1
Series Code:
Series 266

Step 2
Grid Pattern:
12 = .085" x .160" (P & R)

Step 3
No. of Contacts:
24, 36, 50

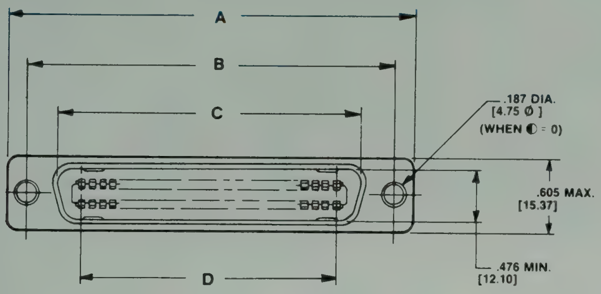
Step 4
Insulator:
P = Plug
R = Receptacle

Step 5
Contact Tail Length (Dim. E):
1 = .125" (for .062" P.C. Board)
2 = .170" (for .093" & .125" P.C. Board)

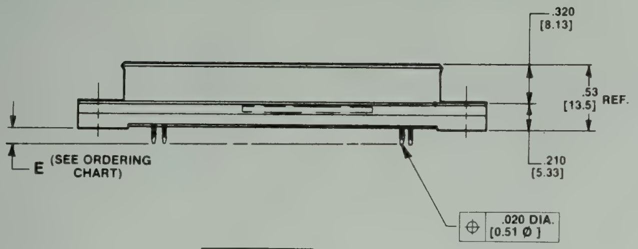
Step 6
Insert:
0=.187" Dia. Thru-Hole.
1=#4-40 Flush Inserts
2=#4-40 Standoffs

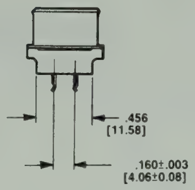
Step 7
Plating:
Consult Sales Dept
For Options

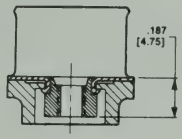
Shielded Telecom Plug & Recept. Series 266



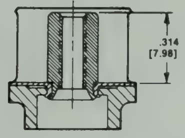
PLUG CONNECTOR
.085" x.160" GRID



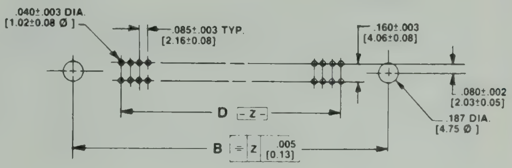




-1 = INSERT OPTION



-2 = STAND-OFF OPTION

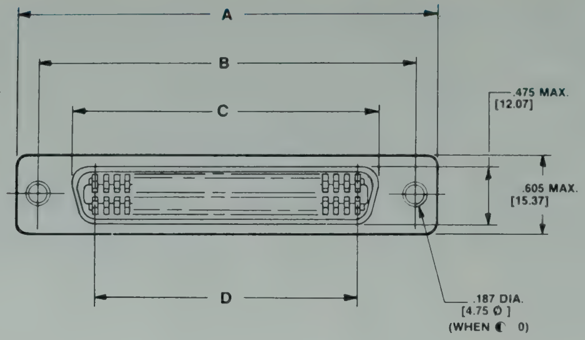


.160" GRID
P.C. BOARD HOLE PATTERN

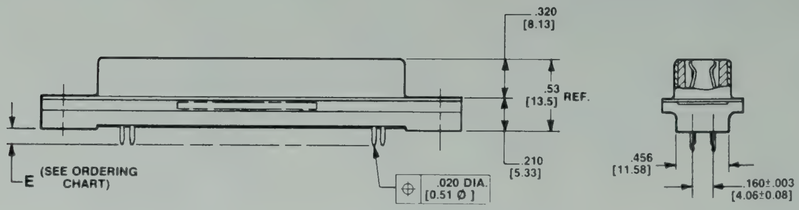
Dimensions

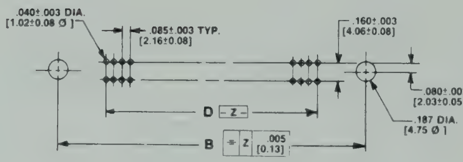
CATALOG NUMBER	A	B	C	D
266-1224P-	2.165 [54.99]	1.842 [46.79]	1.437 [36.50]	.935 [23.75]
266-1236P-	2.675 [67.95]	2.352 [59.74]	1.938 [49.23]	1.445 [36.70]
266-1250P-	3.270 [83.06]	2.947 [74.85]	2.538 [64.47]	2.040 [51.82]

Shielded Telecom Plug & Recept.

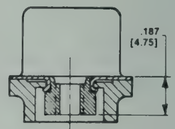


RECEPTACLE CONNECTOR
.085" x .160" GRID

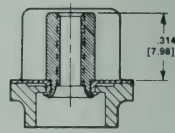




.160" GRID
P.C. BOARD HOLE PATTERN



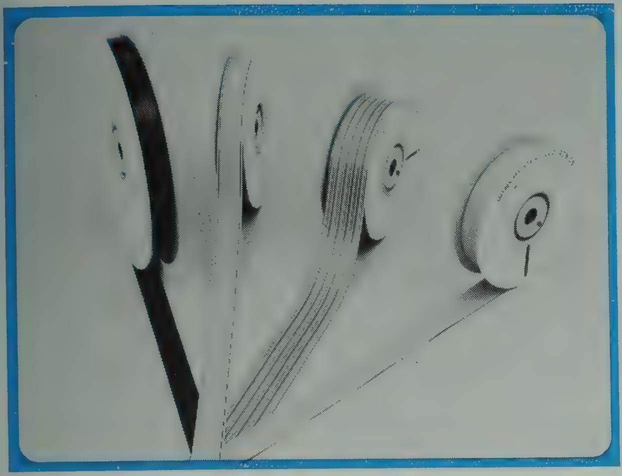
-1 = INSERT OPTION



-2 = STAND-OFF OPTION

Dimensions

CATALOG NUMBER	A	B	C	D
266-1224R-	2.165 [54.99]	1.842 [46.79]	1.419 [36.04]	.935 [23.75]
266-1236R-	2.675 [67.95]	2.352 [59.74]	1.920 [48.77]	1.445 [36.70]
266-1250R-	3.270 [83.06]	2.947 [74.85]	2.520 [64.01]	2.040 [51.82]



SERIES 55

Winchester Electronics' lightweight, low profile flat cables are available in 28 AWG, .050" center spacings and in a variety of colors, widths, and sizes to facilitate interface with all standard industry connectors. These cables are available in standard grey, color coded and ground plane, with or without drain wires.

All are built to demanding specifications and offer dependable protection against abuse. The number one position on each cable is color-coded for easy installation. Center spacing tolerances help ensure consistent electrical characteristics. These cables are well suited for a variety of interconnection applications.

Specifications

Insulation:	Polyvinyl Chloride (PVC)
Conductors:	AWG 28, .015" Nominal O.D., 7/36 Tin Coated Copper
Conductor Spacing:	.050" ± .002" Center to Center
Standard Length Per Reel:	100 Feet

Ordering Chart:

Specify complete connector by following indicated steps.

STEP	1	2	3	4	5
	55	-✱✱	◪	-◺	◐

Step 1
Series Code:
Series 55

Step 2
No. of Conductors:
(.050"±.002" Grid)
9, 10, 12, 14, 15, 16, 20, 24, 25, 26, 30, 34, 36, 37, 40, 44, 50, 60 & 64

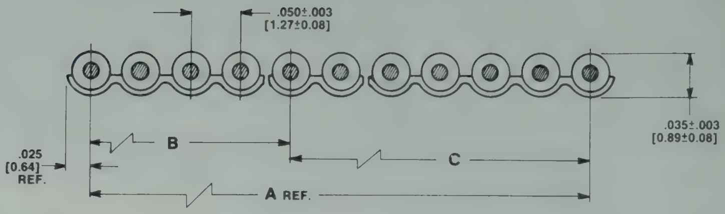
Step 3
Conductor Size:
AWG 28

Step 4
Conductor Type:
1 = Stranded 7/36 (Tin Coated Copper)

Step 5
Cable Type:
0 = Standard Grey Cable With PVC Insulated Conductors
1 = PVC Insulated Discrete Wires Positioned On A PVC Layer. Color Sequence: Brown/Red/Orange/Yellow/Green/Blue/Violet/Grey/White/Black. Colors Repeat.
2 = With Expanded Copper Ground Plane.
3 = With Ground Plane & One Conductor For Shield Pick Up.
4 = With Ground Plane & Two Conductors For Shield Pick Up.
5 = Jacketed Cable
6 = Jacketed Shielded Cable.

RAINBOW COLORED

55-★★28-11

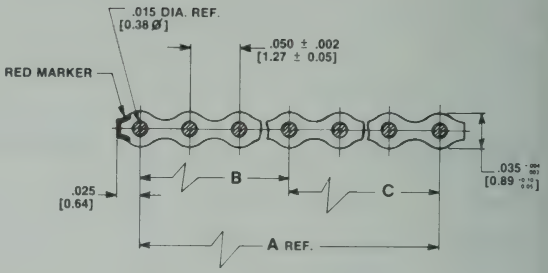


Dimensions - GREY & RAINBOW

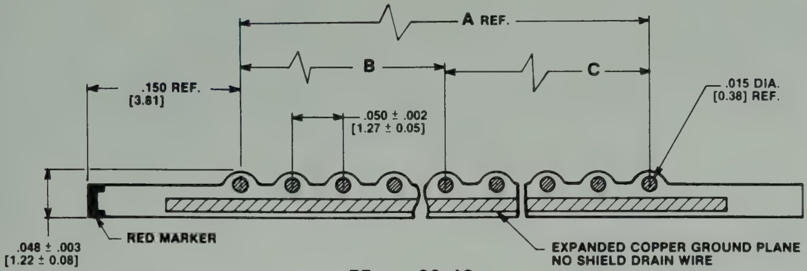
CATALOG NO.	A REF.	B	C
55-0928-10, -11	.400 [10.16]	.200±.004 [5.08±0.10]	.200±.003 [5.08±0.08]
55-1028-10, -11	.450 [11.43]	.250±.004 [6.35±0.10]	.200±.004 [5.08±0.10]
55-1428-10, -11	.650 [16.51]	.350±.004 [8.89±0.10]	.300±.004 [7.62±0.10]
55-1528-10, -11	.700 [17.78]	.350±.004 [8.89±0.10]	.350±.004 [8.89±0.10]
55-1628-10, -11	.750 [19.05]	.400±.004 [10.16±0.10]	.350±.004 [8.89±0.10]
55-2028-10, -11	.950 [24.13]	.500±.004 [12.70±0.10]	.450±.004 [11.43±0.10]
55-2428-10, -11	1.150 [29.21]	.600±.005 [15.24±0.13]	.550±.005 [13.97±0.13]
55-2528-10, -11	1.200 [30.48]	.600±.005 [15.24±0.13]	.600±.005 [15.24±0.13]
55-2628-10, -11	1.250 [31.75]	.650±.005 [16.51±0.13]	.600±.005 [15.24±0.13]
55-3028-10, -11	1.450 [36.83]	.750±.006 [19.05±0.15]	.700±.006 [17.78±0.15]
55-3428-10, -11	1.650 [41.91]	.850±.006 [21.59±0.15]	.800±.006 [20.32±0.15]
55-3628-10, -11	1.750 [44.45]	.900±.006 [22.86±0.15]	.850±.006 [21.59±0.15]
55-3728-10, -11	1.800 [45.72]	.900±.006 [22.86±0.15]	.900±.006 [22.86±0.15]
55-4028-10, -11	1.950 [49.53]	1.000±.006 [25.40±0.15]	.950±.006 [24.13±0.15]
55-4428-10, -11	2.150 [54.61]	1.100±.007 [27.94±0.18]	1.050±.007 [26.67±0.18]
55-5028-10, -11	2.450 [62.23]	1.250±.007 [31.75±0.18]	1.200±.007 [30.48±0.18]
55-6028-10, -11	2.950 [74.93]	1.500±.007 [38.10±0.18]	1.450±.007 [36.83±0.18]
55-6428-10, -11	3.150 [80.01]	1.600±.007 [40.64±0.18]	1.550±.007 [39.37±0.18]

GRAY COLORED

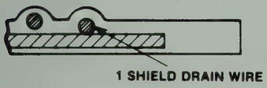
55-★★28-10



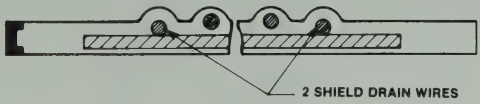
SHIELDED



55-28-12**



55- 28-13**



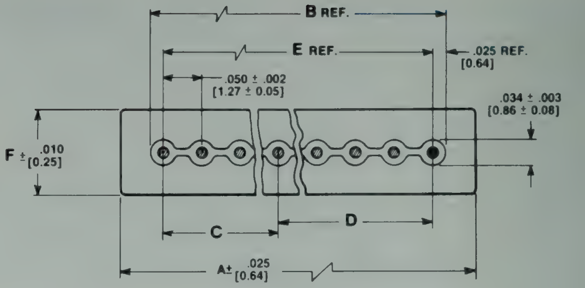
55- 28-14**

Dimensions - SHIELDED

CATALOG NO.	A REF.	B	C
55-0928-12, -13, -14	.400 [10.16]	.200±.004 [5.08±0.10]	.200±.004 [5.08±0.10]
55-1028-12, -13, -14	.450 [11.43]	.250±.004 [6.35±0.10]	.200±.004 [5.08±0.10]
55-1428-12, -13, -14	.650 [16.51]	.350±.004 [8.89±0.10]	.300±.004 [7.62±0.10]
55-1528-12, -13, -14	.700 [17.78]	.350±.004 [8.89±0.10]	.350±.004 [8.89±0.10]
55-1628-12, -13, -14	.750 [19.05]	.400±.004 [10.16±0.10]	.350±.004 [8.89±0.10]
55-2028-12, -13, -14	.950 [24.13]	.500±.004 [12.70±0.10]	.450±.004 [11.43±0.10]
55-2428-12, -13, -14	1.150 [29.21]	.600±.005 [15.24±0.13]	.550±.005 [13.97±0.13]
55-2528-12, -13, -14	1.200 [30.48]	.600±.005 [15.24±0.13]	.600±.005 [15.24±0.13]
55-2628-12, -13, -14	1.250 [31.75]	.650±.005 [16.51±0.13]	.600±.005 [15.24±0.13]
55-3428-12, -13, -14	1.650 [41.91]	.850±.006 [21.59±0.15]	.800±.006 [20.32±0.15]
55-3628-12, -13, -14	1.750 [44.45]	.900±.006 [22.86±0.15]	.850±.006 [21.59±0.15]
55-3728-12, -13, -14	1.800 [45.72]	.900±.006 [22.86±0.15]	.900±.006 [22.86±0.15]
55-4028-12, -13, -14	1.950 [49.53]	1.000±.006 [25.40±0.15]	.950±.006 [24.13±0.15]
55-5028-12, -13, -14	2.450 [62.23]	1.250±.007 [31.75±0.18]	1.200±.007 [30.48±0.18]
55-6028-12, -13, -14	2.950 [74.93]	1.500±.007 [38.10±0.18]	1.450±.007 [36.83±0.18]

JACKETED

55-★★28-15

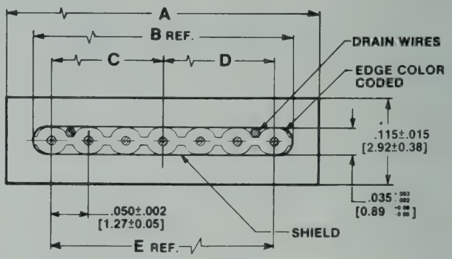


Dimensions

CATALOG NO.	A	B REF.	C	D	E REF.	F
55-0928-15	.510±.025 [12.95±0.64]	.450 [11.43]	.200±.004 [5.08±0.10]	.200±.003 [5.08±0.08]	.400 [10.16]	.110±.010 [2.79±0.25]
55-1428-15	.760±.025 [19.30±0.64]	.700 [17.78]	.350±.004 [8.89±0.10]	.300±.004 [7.62±0.10]	.650 [16.51]	.110±.010 [2.79±0.25]
55-1528-15	.810±.025 [20.57±0.64]	.750 [19.05]	.350±.004 [8.89±0.10]	.350±.004 [8.89±0.10]	.700 [17.78]	.110±.010 [2.79±0.25]
55-2428-15	1.260±.025 [32.00±0.64]	1.200 [30.48]	.600±.005 [15.24±0.13]	.550±.005 [13.97±0.13]	1.150 [29.21]	.110±.010 [2.79±0.25]
55-2528-15	1.310±.025 [33.27±0.64]	1.250 [31.75]	.600±.005 [15.24±0.13]	.600±.005 [15.24±0.13]	1.200 [30.48]	.110±.010 [2.79±0.25]
55-3628-15	1.860±.025 [47.24±0.64]	1.800 [45.72]	.900±.006 [22.86±0.15]	.900±.006 [22.86±0.15]	1.750 [44.45]	.125±.010 [3.18±0.25]
55-3728-15	1.910±.025 [48.51±0.64]	1.850 [46.99]	.900±.006 [22.86±0.15]	.900±.006 [22.86±0.15]	1.800 [45.72]	.125±.010 [3.18±0.25]
55-5028-15	2.560±.025 [65.02±0.64]	2.500 [63.50]	1.250±.007 [31.75±0.18]	1.200±.007 [30.48±0.18]	2.450 [62.23]	.125±.010 [3.18±0.25]

JACKETED SHIELDED

55-★★28-16



Dimensions

CATALOG NO.	A	B REF.	C	D	E REF.
55-0928-16	.530±.020 [13.46±0.51]	.450 [11.43]	.200±.004 [5.08±0.10]	.200±.003 [5.08±0.08]	.400 [10.16]
55-1428-16	.780±.030 [19.81±0.76]	.700 [17.78]	.350±.004 [8.89±0.10]	.300±.004 [7.62±0.10]	.650 [16.51]
55-1528-16	.830±.030 [21.08±0.76]	.750 [19.05]	.350±.004 [8.89±0.10]	.350±.004 [8.89±0.10]	.700 [17.78]
55-2428-16	1.280±.030 [32.51±0.76]	1.200 [30.48]	.600±.005 [15.24±0.13]	.550±.005 [13.97±0.13]	1.150 [29.21]
55-2528-16	1.330±.030 [33.78±0.76]	1.250 [31.75]	.600±.005 [15.24±0.13]	.600±.005 [15.24±0.13]	1.200 [30.48]
55-3628-16	1.880±.035 [47.75±0.89]	1.800 [45.72]	.900±.006 [22.86±0.15]	.850±.006 [21.59±0.15]	1.750 [44.45]
55-3728-16	1.930±.035 [49.02±0.89]	1.850 [46.99]	.900±.006 [22.86±0.15]	.900±.006 [22.86±0.15]	1.800 [45.72]
55-5028-16	2.580±.035 [65.53±0.89]	2.500 [63.50]	1.250±.007 [31.75±0.18]	1.200±.007 [30.48±0.18]	2.450 [62.23]

JACKETED SHIELDED WITHOUT DRAIN WIRES 55-★★28-17 AVAILABLE IN SIZES SHOWN ABOVE - CONTACT SALES DEPT

IDC Platen Fixtures

IDC PLATENS

Connector Series	Platen Cat. No. Hand Press	Platen Cat. No. Air Press	Color Code	Ram Platen Cat. No. Hand Press	Ram Platen Cat. No. Air Press	Gage Blocks for use with Hand Press
33 Edgecard	107-42620	107-42620	Silver	107-1200	107-0170	None Required
49 D-Subminiature	107-0130-1*	107-0169	Silver	107-0131	107-0171	107-43340-6
51 Standard Socket	107-1081-2*	107-0166	Blue	107-1200	107-0170	107-43340
53 Edgecard	107-1083-1*	107-0167	Black	107-1200	107-0170	107-43340-1
54 Transition	107-1084-1*	107-0168	Red	107-1200	107-0170	107-43340-2
58 Socket Replacement	107-42405	107-42404	Red	107-1200	107-0170	None Required
61 Low Profile Socket	107-1081-2*	107-0166	Blue	107-1200	107-0170	107-43340
68 Plug	107-0550	107-42409	Blue	107-0551	107-42410	None Required
71 Low Profile DIP	107-1087-3*	107-0164	Brown	107-1200	107-0170	107-43340-6
81 Socket	107-0759-1	107-0759-2	Blue	107-1200	107-0170	None Required
149 D-Sub with Shield	107-42400	107-42400	Silver	107-0131	107-0171	None Required

* *Gage block included with these platens.*

Use 107-43197 Spec. Guard on air press for Series 33.

Use 107-1200 Ram Platen when terminating flat Grey cable.

Use 107-42402 Special Application Ram Platen when terminating flat Rainbow colored cable.

See **Tooling for Special Applications** chart.

ACCESSORY PLATENS
for Winchester & 3M Presses

Use of these platens permits termination of Winchester connectors on Winchester and 3M presses.

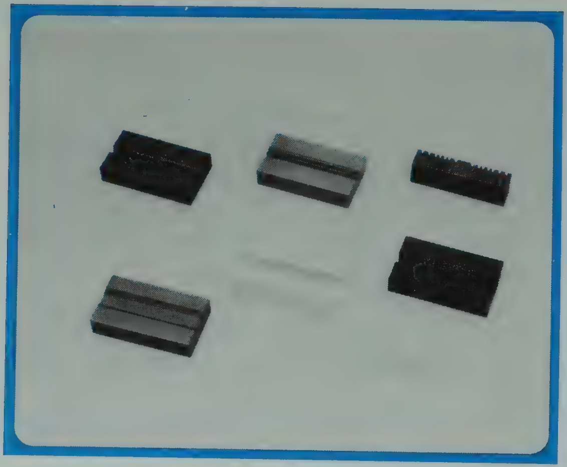
For Pneumatic presses only.

Upper row, left to right:	Catalog Number
24-pin Dip	107-0165
Transition (for termination before soldering to board)	107-0168
Transition (for termination after soldering to board)	107-0174
Middle row, left to right:	
Low Profile (14 & 16-pin) Dip	107-0164
D-Subminiature	107-0169
Edgecard	107-0167
Bottom row:	
Socket	107-0166

For standard arbor press only.

Upper row, left to right:	Catalog Number
Standard Dip	107-1096
Socket	107-1081-1
Transition (for termination after soldering to board)	107-1088
Middle row, left to right:	
Transition (for termination before soldering to board)	107-1084
D-Subminiature	107-0130
Edgecard	107-1083
Bottom row:	
Low Profile (14 & 16-pin) Dip	107-1087-1

IDC Platen Fixtures



SPECIAL NOTES: Gage blocks are not required for the following:

1. 68 Series Plug Connector
2. 81 Series Socket Connector
3. 58 Series Socket Header Replacement Connector
4. Any of the IDC Platens used in the pneumatic press

ANSLEY CONVERSION PLATENS

Connector Series	Platen Cat. No.	Color Code	Ram Platen Cat. No.
49 D-Subminiature	107-0162	Silver	107-0163
51 & 61 Socket with Side Key Cutout	107-1201-1	Blue	107-1202
51 & 61 Socket without Side Key Cutout	107-1201	Blue	107-1202
53 Edgecard	107-1204	Black	107-1202
54 Transition	107-0161	Red	107-1202

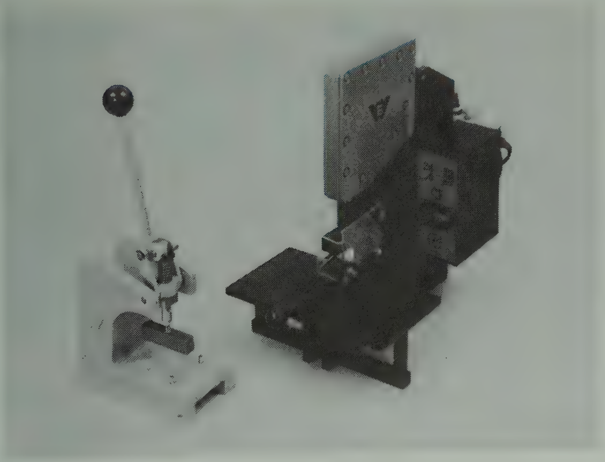
NOTE: Winchester Electronics manufactures the Ansley Conversion Platens to fit on the Ansley Hand Press. These platens will accept only Winchester connectors, **not** Ansley connectors. These platens are used for terminating Winchester connectors using the Ansley Hand Press.

TOOLING FOR SPECIAL APPLICATIONS

	Platen Cat. No.		Color Code	Ram Platen Cat. No.		Gage Blocks
	Hand Press	Air Press		Hand Press	Air Press	for use with Hand Press
***TRANSITION PLATEN** *(For termination after soldering to a P.C. Board)*						
54 Series Transition	107-1088	107-42407	Red	107-1200	107-0170	None Required
***SOCKET PLATEN** *(For termination of socket with strain relief clips) 51 or 61 Series* *(Socket is terminated upside-down)*						
51 Series Sockets	107-0757-1	107-0757-2	Blue	107-1200	107-0170	None Required
***SOCKET RAM PLATEN** *(For termination of 61 Series Socket without Strain Relief using rainbow colored cable)*						
61 Series Sockets	107-1081-2	N/A	Blue	107-42402	N/A	107-43340

* *Gage block included with these platens*

IDC Bench Presses & Hand Tools



Left: **Standard Arbor Press** *Right:* **Pneumatic Press**

DESCRIPTION	CATALOG NO.
Hand Press	107-1080
Air Press	107 - 42680

Top: **Large Hand Tool** *Bottom:* **Small Hand Tool**

LARGE HAND TOOL Connector Series	Fixture Catalog No.
71 Low Profile DIP	107-10623-5
51 & 61 Socket	107-10623
53 Edgecard	107-10623-2
54 Transition	107-10623-1
58 Socket Replacement	107-42412
68 Plug	107-42273
Large Hand Tool for Terminating Connectors	107-10621

SMALL HAND TOOL is equipped with fixturing for terminating the 48 & 71 Series Low Profile DIP Connectors.

DESCRIPTION	CATALOG NO.
Small Hand Tool for Terminating Connectors	107-1097-1

SPECIAL GAGE BLOCK: Used for adjusting shut height on IDC Hand Press without the lower platen in place.

Connector Series	Catalog No.
51, 53, 54 & 61 Series	107-0179-1
49 D-Sub Series	107-0179-2

IDC Accessory Tooling

DESCRIPTION	CATALOG NO.
E-Ring Applicator (Used to install 49-601S & 49-602S Jacksocket)	107-0132
E-Ring Applicator (Used to install 49-603P & 49-604P Jackscrew)	107-0109
Cable Shear Platen	107-1082
Cable Shear Platen Replacement Blade	107-1082-6
Hand Cable Cutter	107-42683
Replacement Blades	110259
Replacement Anvil	110260
Locking Clip Release Tool (For releasing connector latches on 51, 61, & 53 Series)	107-0148

Flat-Ribbon Cable Cutter For Cable Width Up To 3.35″ (85 mm) Catalog No. 107-42683

I.D.C. CONTACT PLATING

	DESCRIPTION	SERIES USED ON																								
		47	48	49	50	51	52	53	54	58	61	68	70	71	80	81	85	86	147	149	165	166	167	33	106	266
A	30 AU OVER 50 NI.																									
C	15 AU ON MATING END 2-5 AU ON REMAINDER			■		■		■			■	■					●			■						
D	30 AU ON MATING END TIN ON REMAINDER	●					●						●		●	■	●	●	●		●	●	●	●	●	●
E	15 AU ON MATING END TIN ON REMAINDER	■					■						■		■		■	■	■		■	■	■	■	■	■
F	2-3 AU OVER 50 NI.		■		■				■	■				■												
G	30 AU ON MATING END 2-5 AU ON REMAINDER			●		●		●			●									●						
S	50 AU ON MATING END TIN ON REMAINDER	●																	●							
J	TIN ALL OVER		●						●	●			●			●										
	NOTE: IF NO PLATING LETTER IS INDICATED IN PART NUMBER, USE PLATING SPECS AS HIGHLIGHTED ABOVE BY SQUARES. THESE ARE THE STANDARD PLATINGS.CIRCLES INDICATE AVAILABLE ALTERNATIVES.																									

Printed Circuit Connectors

This Printed Circuit section has been planned to function as a tool for the working design engineer and purchasing agent to facilitate on-the-job decisions.

All connectors have been grouped into two major categories: Edgecard and Output. Within these categories all Edgecard connectors are referenced by their grid spacing and number of contact positions.

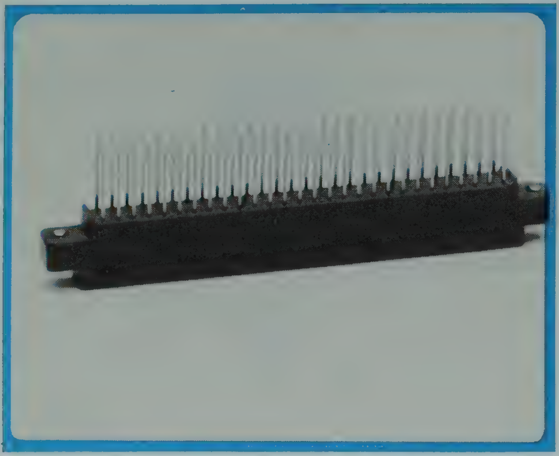
Winchester Electronics' connectors are ready, and in most cases available for off-the-shelf delivery, from our worldwide network of distributors.

TERMINATION TYPES

PAGE NO.	SERIES	DESCRIPTION	GRID	CONTACTS
EDGECARD				
2-3	Series HW**C	Dip Solder	.100" x .200"	22,25,30,35,36,43,48,50 Contact Pairs
4-5	Series HWP**C	Dip Solder	.100" x .200"	20,25,30,36,40,43,50
6-7	Series HW**D	Dip Solder	.125" x .250"	28,30,31,40,49,50
8-9	Series HL**D	Dip Solder	.125" x .250"	15,18,20,28,30,31,36,40,43,44,49,50
8-9	Series HL**C	Dip Solder	.100" x .200"	10,12,13,20,25,30,36,40,43,50,60,61,65,70
10-11	Series HSD/HMD	Dip Solder, Eyelet, W/W	.156" x .140"	10,15,18,22,36,43
12-13	Series HCB	Dip Solder, Eyelet	.156" x .140"	6,10,15,18,22,28,36,43
14-15	Series HK/HB	Dip Solder, Eyelet	Single Row	6,15,18,22,28
16-17	Series HCA	Dip Solder, Eyelet	.156" x .200"	6,10,15,18,22,25
18-21	Series 8B	Dip Solder, Eyelet, W/W	Single Row	6,10,12,15,18,22,28,30
18-21	Series 8B	Dip Solder, Eyelet, W/W	.156" x .156"	6,10,12,15,18,22,28,30
OUTPUT				
22-25	Series PGB**AS	Crimp,Dip Solder	Single Row	10,15,20,25,30,35,40
22-25	Series PGB**A	Crimp,Dip Solder	.100" x .100"	10,15,20,25,30,35,40,51
22-25	Series PGB**C	Crimp,Dip Solder	.100" x .200"	10,15,20,25,30,35,40,51
22-25	Series PGB**BS	Crimp,Dip Solder	Single Row	10,15,20,25,30,35,40
22-25	Series PGB**B	Crimp,Dip Solder	.125" x .125"	10,15,20,25,30,35,40,51
22-25	Series PGB**D	Crimp,Dip Solder	.125" x .250"	10,15,20,25,30,35,40,51

HW**C Series

.100" x .200" Grid Edgecard



Specifications

Insulators:	Green, glass-filled diallyl phthalate per MIL-M-14, SDG-F. Optional: glass filled phenolic.
Contacts:	Phosphor bronze, gold over nickel plated.
Insertion/ Withdrawal Forces:	2 to 8 oz. average contact pair using .0620" (±.0005") steel test blade.

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	25 mv @ 5 amps.
Current Rating:	3 amps continuous.
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

Example: To order an HWC connector with 43 contact pairs, grid spacing .100" x .200", .128" diameter mounting holes and standard .000015" gold contact plating, Code Ordering Number will be: **HW43CO-111.** Specify complete connector by following steps 1 through 6 as indicated.

STEP 1	2	3	4	5	6
	HW	43	C	0	111

Step 6
Plating:
111 - .000015" gold over nickel.
112 - .000030" gold over nickel.
113 - .000050" gold over nickel.

Step 5
Mounting:
0 - .128" diameter clearance hole
2 - #4-40 threaded insert, molded in.

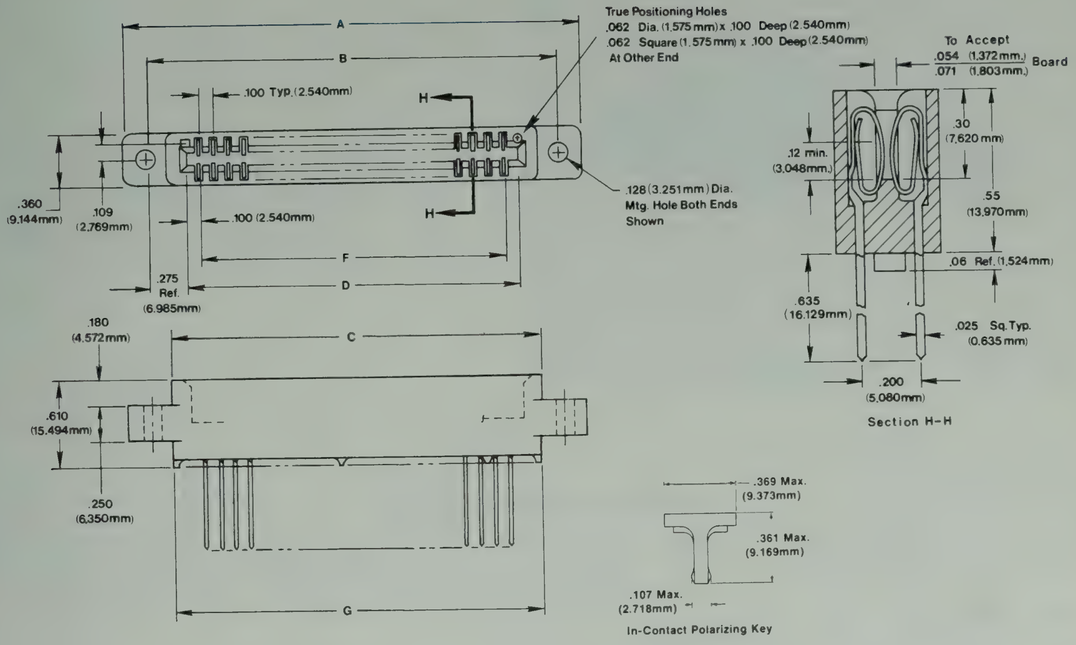
Step 4
Grid Spacing:
C = .100" x .200"

Step 3
Number of Contact Pairs:
22, 25, 30, 35, 36, 43, 48, 50.

Step 2
Insert Series Code (HW)

Step 1
Prefix 2:
For dip solder applications post length .230" add prefix 2.
Example: 2HW43CO-111. For wire wrap no prefix needed.

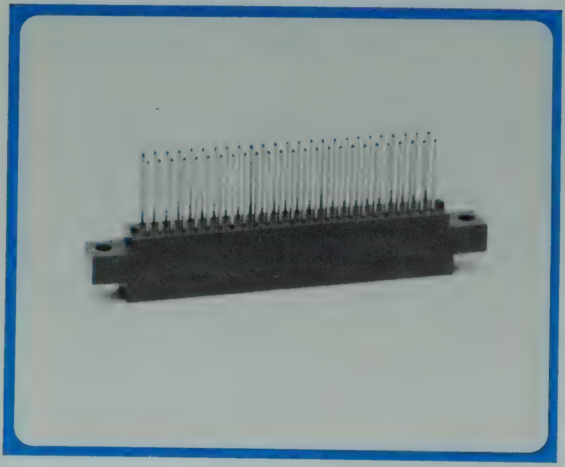
In-Contact Polarizing Key: .090" max width. Order separately. Cat. No. 109-8670.



Dimensions

Catalog Number	A	B	C	D	F	G
HW22C	3.15" (80.01mm)	2.850" (72.390mm)	2.55" (64.77mm)	2.300" (58.420mm)	2.100" (53.340mm)	2.53" (64.26mm)
HW25C	3.45" (87.63mm)	3.150" (80.010mm)	2.85" (72.39mm)	2.600" (66.040mm)	2.400" (60.960mm)	2.83" (71.88mm)
HW30C	3.95" (100.33mm)	3.650" 92.710mm)	3.35" (85.09mm)	3.100" (78.740mm)	2.900" (73.660mm)	3.33" (84.58mm)
HW35C	4.45" (113.03mm)	4.150" (105.410mm)	3.85" (97.79mm)	3.600" (91.440mm)	3.400" (86.360mm)	3.83" (97.28mm)
HW36C	4.55" (115.57mm)	4.250" (107.950mm)	3.95" (100.33mm)	3.700" (93.980mm)	3.500" (88.900mm)	3.93" (99.82mm)
HW43C	5.25" (133.35mm)	4.950" (125.730mm)	4.65" (118.11mm)	4.400" (111.760mm)	4.200" (106.680mm)	4.63" (117.60mm)
HW48C	5.75" (146.05mm)	5.450" (138.430mm)	5.15" (130.81mm)	4.900" (124.460mm)	4.700" (119.380mm)	5.13" (130.30mm)
HW50C	5.95" (151.13mm)	5.650" (143.510mm)	5.35" (135.89mm)	5.100" (129.540mm)	4.900" (124.460mm)	5.33" (135.38mm)

HWP**C Series



Specifications

Insulators:	Green, glass-filled diallyl phthalate per MIL-M-14, SDG-F. Optional: glass filled phenolic.
Contacts:	Phosphor bronze, gold over nickel.
Insertion/ Withdrawal Forces:	2 to 8 oz. average contact pair using .0620" (±.0005") steel test blade.

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	25 mv @ 5 amps.
Current Rating:	3 amps continuous.
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

Example: To order an HWP connector with .025" post length contacts, polarization between contacts, 36 contact pairs, grid spacing of .100" x .200", #4-40 threaded inserts and .000030" gold plated contacts, code ordering number will be: **HWP36C2-112.** Specify complete connector by following steps 1 through 7 as indicated.

STEP 1	2	3	4	5	6	7
	HW	P	36	C	2	112

Step 7

Contact Plating:

111 - .000015" gold over nickel.

112 - .000030" gold over nickel.

113 - .000050" gold over nickel.

Step 6

Mounting:

0 - .128" dia. clearance holes (for Panel Mounting).

2 - #4-40 threaded insert (molded in) (for Panel Mounting).

4 - .128" diameter clearance holes (for Flush Mounting).

5 - #4-40 threaded insert (molded in) (for Flush Mounting).

Step 5

Grid Spacing:

C = .100" x .200"

Step 4

Number of Contact Pairs:

20, 25, 30, 36, 40, 43, 50.

Step 3

Polarization Between Contacts

Step 2

Insert Series Code (HW)

Step 1

For dip solder applications post length .230" add prefix 2 to catalog number. Example. 2HWP36C2-112. For wire wrap no prefix needed.

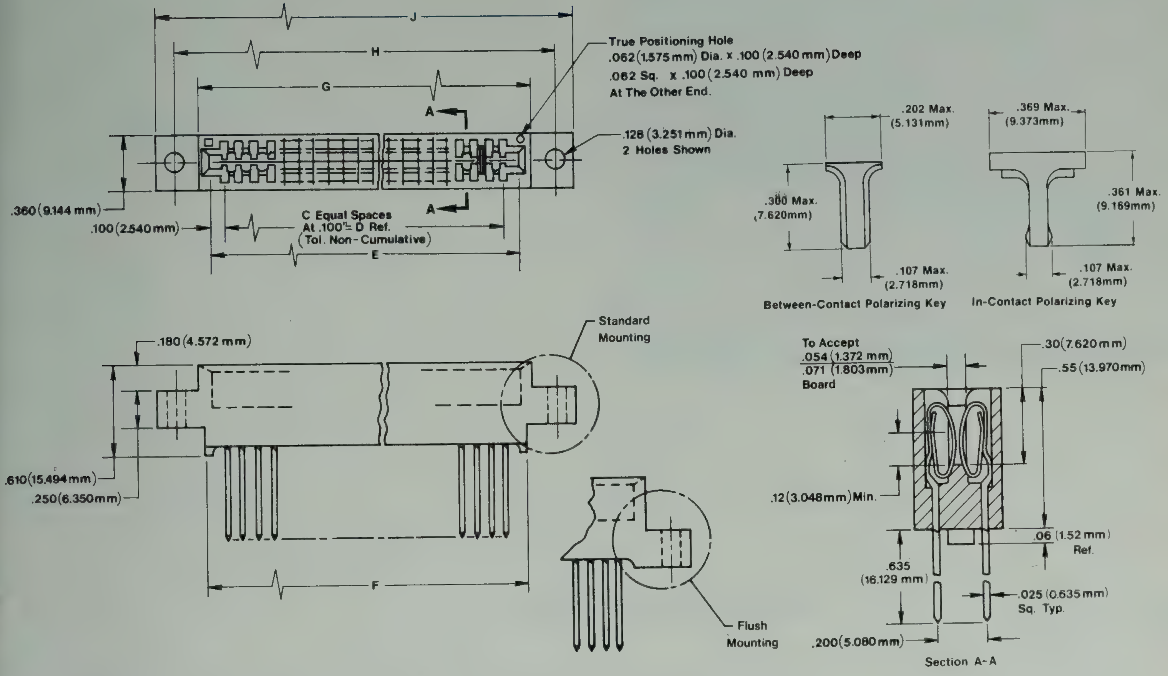
Polarizing Keys:

In-Contact: .090" max. width. Order separately. Cat. No. 109-8670.

Between-Contact: .035" max. width. Order separately. Cat. No. 109-9873.

Edgecard .100" x .200" Grid

Series HWP**C

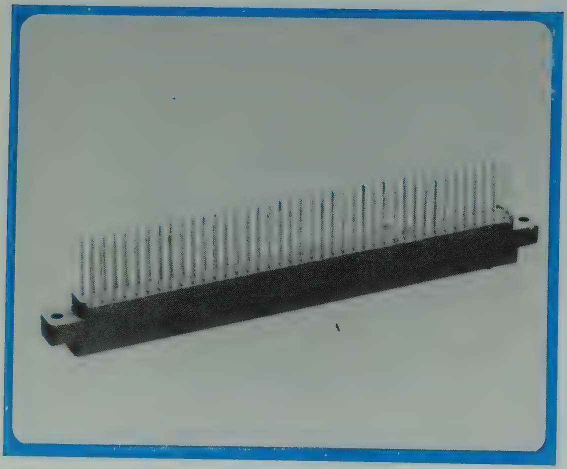


Dimensions

Catalog Number	C	D	E	F	G	H	J
HWP20C	19	1.900" (48.260mm)	2.100" (53.340mm)	2.15" (54.61mm)	2.26" (57.40mm)	2.575" (65.405mm)	2.84" (72.14mm)
HWP25C	24	2.400" (60.960mm)	2.600" (66.040mm)	2.65" (67.31mm)	2.76" (70.10mm)	3.075" (78.105mm)	3.34" (84.84mm)
HWP30C	29	2.900" (73.660mm)	3.100" (78.740mm)	3.15" (80.01mm)	3.26" (82.80mm)	3.575" (90.805mm)	3.84" (97.54mm)
HWP36C	35	3.500" (88.900mm)	3.700" (93.980mm)	3.75" (95.25mm)	3.86" (98.04mm)	4.175" (106.045mm)	4.44" (112.78mm)
HWP40C	39	3.900" (99.060mm)	4.100" (104.140mm)	4.15" (105.41mm)	4.26" (108.20mm)	4.575" (116.205mm)	4.84" (122.94mm)
HWP43C	42	4.200" (106.680mm)	4.400" (111.760mm)	4.45" (113.03mm)	4.56" (115.82mm)	4.875" (123.825mm)	5.14" (130.56mm)
HWP50C	49	4.900" (124.460mm)	5.100" (129.540mm)	5.15" (130.81mm)	5.26" (133.60mm)	5.575" (141.605mm)	5.84" (148.34mm)

HW**D Series

.125" x .250" Grid Edgecard



Specifications

Insulators:	Green, glass-filled diallyl phthalate per MIL-M-14, SDG-F. Optional: glass filled phenolic.
Contacts:	Phosphor bronze, gold over nickel.
Insertion/ Withdrawal Forces:	2 to 8 oz. average contact pair using .0620" (±.0005") steel test blade.
Contact Resistance:	25 mv @ 5 amps.
Current Rating:	5 amps.
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

Example: To order an HWD Series connector with 49 contact pairs, grid spacing .125" x .250", #4-40 molded-in, threaded inserts, and standard .000015" gold over nickel contact plating, code ordering number will be: **HW49D2-111.** Specify complete connector by following steps 1 through 6 as indicated.

STEP 1	2	3	4	5	6
	HW	49	D	2	111

Step 6
Contact Plating:
111 = .000015" gold over nickel.
112 = .000030" gold over nickel.
113 = .000050" gold over nickel.

Step 5
Mounting:
0 = .128" diameter clearance hole
2 = #4-40 threaded insert, molded in

Step 4
Grid Spacing:
D = .125" x .250"

Step 3
Number of Contact Pairs:
28, 30, 31, 40, 49, 50

Step 2
Insert Series Code (HW)

Step 1
Prefix 2:
Add prefix 2 for dip solder applications post length .230" from bottom of connector and .170 from .060 boss. Example: 2HW49D2-111. For wire wrap no prefix is needed.

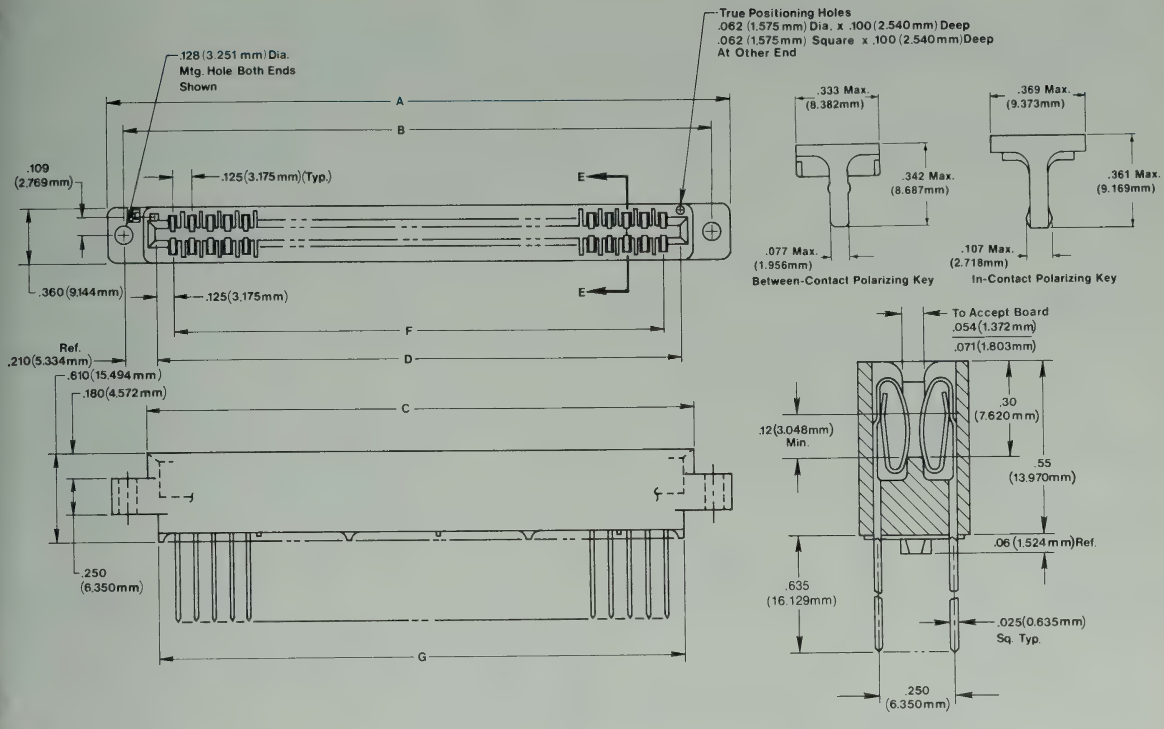
Polarizing Keys:

In-Contact: .090" max. width. Order separately. Cat. No. 109-8670.

Between-Contact. .045" max. width. Order separately. Cat. No. 109-8340-1.

Edgecard .125" x .250" Grid

Series HW**D



SECTION E-E

Dimensions

Catalog Number	A	B	C	D	F	G
HW28D	4.30" (109.22mm)	4.045" (102.743mm)	3.78" (96.01mm)	3.625" (92.075mm)	3.375" (85.725mm)	3.62" (91.95mm)
HW30D	4.55" (115.57mm)	4.295" (109.093mm)	4.03" (102.36mm)	3.875" (98.425mm)	3.625" (92.075mm)	3.87" (98.30mm)
HW31D	4.68" (118.87mm)	4.420" (112.268mm)	4.16" (105.66mm)	4.000" (101.600mm)	3.750" (95.250mm)	4.00" (101.60mm)
HW40D	5.80" (147.32mm)	5.545" (140.843mm)	5.28" (134.11mm)	5.125" (130.175mm)	4.875" (123.825mm)	5.12" (130.05mm)
HW49D	6.93" (176.02mm)	6.670" (169.418mm)	6.41" (162.81mm)	6.250" (158.750mm)	6.000" (152.400mm)	6.25" (158.75mm)
HW50D	7.05" (179.07mm)	6.795" (172.593mm)	6.53" (165.86mm)	6.375" (161.925mm)	6.125" (155.575mm)	6.37" (161.80mm)

HL**C/HL**D Series

.100" x .200" .125" x .250" Grid Edgecard

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	30 mv @ 5 amps.
Current Rating:	3 amps continuous.
Dielectric Withstanding Voltage:	1800 VAC RMS.
Operating Temperature:	-65° to +125° C.

Specifications

Insulators:	Green, glass-filled polyester (thermoplastic) UL rating 94 V-O.
Contacts: **Plating:**	Copper, nickel, tin alloy (CDA 725) Gold over nickel (contact area), Tin (on tail).
Insertion/ Withdrawal Forces:	2 [56.7] to 8 [226.8] oz. [grams] average contact pair using .0620± .0005 steel test blade. [1.575] [.013]
Recommended P.C. Board Hole Size:	
Dip Solder .023" Tail:	.031 [.79] min. dia.
Dip Solder .040" Tail & .025" Sq. Tail:	.049 [1.24] min. dia.

STEP 1	2	3	4	5	6	7
HL	**	C/D	◪	B	◐	- 190

Step 7
Contact Plating Options:
-190 = Gold over nickel, tin on tail
(Consult sales dept. for other options)

Step 6
Contact Termination Type:
1 = Dip Solder, .023" wide x .170" extension
2 = Dip Solder, .040" wide x .170" extension
3 = Dip Solder, .025" sq. x .170" extension
4 = Wire Wrap, .025" sq. x .575" extension

Step 5
Contact Style:
B = Bifurcated

Step 4
Type of Mounting:
With Raised Mounting Ears
0 = .128" Dia. mounting holes
2 = #4-40 threaded bushings
With Flush Mounting Ears
4 = .128" Dia. mounting holes
5 = #4-40 threaded bushings
With No Mounting Ears
6 = with no mounting ears

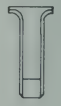
Step 3
Grid Spacing:
C = .100" x .200"
D = .125" x .250"

Step 2
Number of Contact Pairs:
HL**C = 10, 12, 13, 20, 25, 30, 36, 40, 43, 50, 60, 61, 65, 70
HL**D = 15, 18, 20, 28, 30, 31, 36, 40, 43, 44, 49, 50

Step 1
Insert Series Code (HL)

Example: To order an HL connec with 20 contact pairs, .025" Sq. solder, bifurcated contacts (pla gold over nickel, tin on tail). or .125" x .250" grid, with raised mou ing ears and threaded insert, ord catalog number **HL20D2B3-1** Specify complete connector by lowing steps 1 through 7 as in cated.

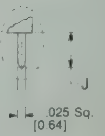
Between - Contact Polarizing Key .033" max. width. Order Separatel Cat. No. 109-101751.


POLARIZING KEY

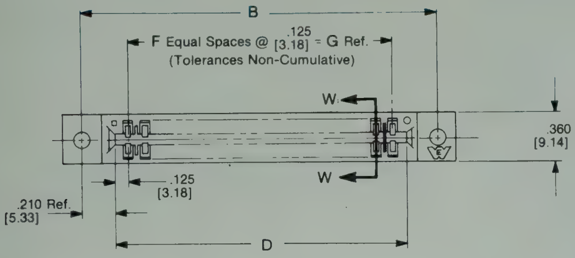
Dimensions, HL**C Series

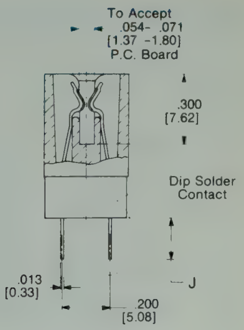
Catalog Number	A	B	C	D	E	F	G Ref.	K
HL10C	1.840 [46.74]	1.575 [40.00]	1.260 [32.00]	1.100 [27.94]	1.150 [29.21]	9	.900 [22.86]	1.060 [26.92]
HL12C	2.040 [51.82]	1.775 [45.09]	1.460 [37.08]	1.300 [33.02]	1.350 [34.29]	11	1.100 [27.94]	1.260 [32.00]
HL13C	2.140 [54.36]	1.875 [47.63]	1.560 [39.62]	1.400 [35.56]	1.450 [36.83]	12	1.200 [30.48]	1.360 [34.54]
HL20C	2.840 [72.14]	2.575 [65.40]	2.260 [57.40]	2.100 [53.34]	2.150 [54.61]	19	1.900 [48.26]	2.060 [52.32]
HL25C	3.340 [84.84]	3.075 [78.10]	2.760 [70.10]	2.600 [66.04]	2.650 [67.31]	24	2.400 [60.96]	2.560 [65.02]
HL30C	3.840 [97.54]	3.575 [90.80]	3.260 [82.80]	3.100 [78.74]	3.150 [80.01]	29	2.900 [73.66]	3.060 [77.72]
HL36C	4.440 [112.78]	4.175 [106.04]	3.860 [98.04]	3.700 [93.98]	3.750 [95.25]	35	3.500 [88.90]	3.660 [92.96]
HL40C	4.840 [122.94]	4.575 [116.20]	4.260 [108.20]	4.100 [104.14]	4.150 [105.41]	39	3.900 [99.06]	4.060 [103.12]
HL43C	5.140 [130.56]	4.875 [123.82]	4.560 [115.82]	4.400 [111.76]	4.450 [113.03]	42	4.200 [106.68]	4.360 [110.74]
HL50C	5.840 [148.34]	5.575 [141.60]	5.260 [133.60]	5.100 [129.54]	5.150 [130.81]	49	4.900 [124.46]	5.060 [128.52]
HL60C	6.840 [173.74]	6.575 [167.00]	6.260 [159.00]	6.100 [154.94]	6.150 [156.21]	59	5.900 [149.86]	6.060 [153.92]
HL61C	6.940 [176.28]	6.675 [169.54]	6.360 [161.54]	6.200 [157.48]	6.250 [158.75]	60	6.000 [152.40]	6.160 [156.46]
HL65C	7.340 [186.44]	7.075 [179.70]	6.760 [171.70]	6.600 [167.64]	6.650 [168.91]	64	6.400 [162.56]	6.560 [166.62]
HL70C	7.840 [199.14]	7.575 [192.40]	7.260 [184.40]	7.100 [180.34]	7.150 [181.61]	69	6.900 [175.26]	7.060 [179.32]

Contact Termination		
DIP SOLDER		
No.	H	J
1	.023 [.584]	.170 [4.318]
2	.040 [1.016]	.170 [4.318]
3	.025 [.635]	.170 [4.318]
WIRE WRAP		
4	.025 [.635]	.575 [14.605]

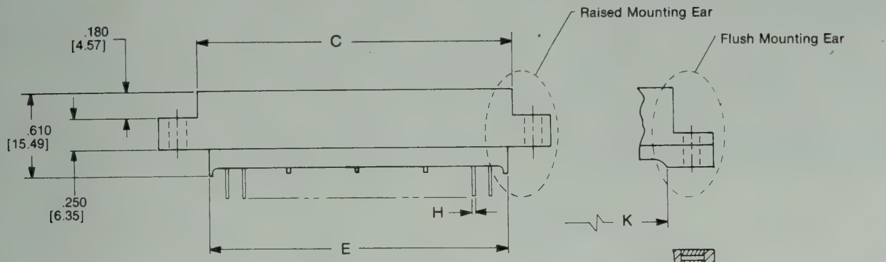


WIRE WRAP

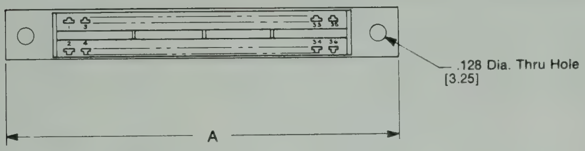

B
F Equal Spaces @ .125 [3.18] = G Ref.
(Tolerances Non-Cumulative)
W
W
.360
[9.14]
.210 Ref.
[5.33]
.125
[3.18]
D

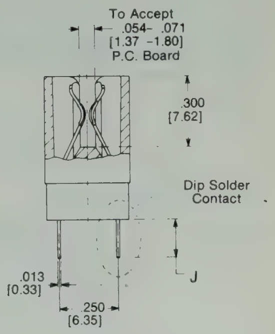


SECTION W-W
HL**C Series

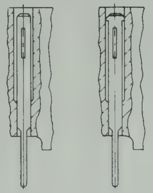


#4-40 THREADED BUSHING





SECTION W-W
HL**D Series



BIFURCATED CONTACTS
HL**C Series HL**D Series

Dimensions, HL**D Series

Catalog Number	A	B	C	D	E	F	G Ref.	K
HL15D	2.675 [67.94]	2.420 [61.47]	2.155 [54.74]	2.000 [50.80]	1.995 [50.67]	14	1.750 [44.45]	1.905 [48.39]
HL18D	3.050 [77.47]	2.795 [70.99]	2.530 [64.26]	2.375 [60.32]	2.370 [60.20]	17	2.125 [53.98]	2.280 [57.91]
HL20D	3.300 [83.82]	3.045 [77.34]	2.780 [70.61]	2.625 [66.68]	2.620 [66.55]	19	2.375 [60.32]	2.530 [64.26]
HL28D	4.300 [109.22]	4.045 [102.74]	3.780 [96.01]	3.625 [92.08]	3.620 [91.95]	27	3.375 [85.72]	3.530 [89.66]
HL30D	4.550 [115.57]	4.295 [109.09]	4.030 [102.36]	3.875 [98.42]	3.870 [98.30]	29	3.625 [92.08]	3.780 [96.01]
HL31D	4.675 [118.74]	4.420 [112.27]	4.155 [105.54]	4.000 [101.60]	3.995 [101.47]	30	3.750 [95.25]	3.905 [99.19]
HL36D	5.300 [134.62]	5.045 [128.14]	4.780 [121.41]	4.625 [117.48]	4.620 [117.35]	35	4.375 [111.12]	4.530 [115.06]
HL40D	5.800 [147.32]	5.545 [140.84]	5.280 [134.11]	5.125 [130.18]	5.120 [130.05]	39	4.875 [123.82]	5.030 [127.76]
HL43D	6.175 [156.84]	5.920 [150.37]	5.655 [143.64]	5.500 [139.70]	5.495 [139.57]	42	5.250 [133.35]	5.405 [137.29]
HL44D	6.300 [160.02]	6.045 [153.54]	5.780 [146.81]	5.625 [142.88]	5.620 [142.75]	43	5.375 [136.53]	5.530 [140.46]
HL49D	6.925 [175.90]	6.670 [169.42]	6.405 [162.69]	6.250 [158.75]	6.245 [158.62]	48	6.000 [152.40]	6.155 [156.34]
HL50D	7.050 [179.07]	6.795 [172.59]	6.530 [165.86]	6.375 [161.92]	6.370 [161.80]	49	6.125 [155.58]	6.280 [159.51]

HSD/HMD Series

.156" x .140" .156" x .156" Grid Edgecard

Specifications

Insulators:	HSD — Green, glass-filled phenolic per MIL-M-14, Type MFH. HMD — Green, glass-filled diallyl phthalate per MIL-M-14, Type SDG-F.
Contacts:	HSD — Phosphor bronze, .000015" gold over copper. HMD — Phosphor bronze, .000050" gold over nickel.
Insertion/ Withdrawal Forces:	2 to 8 oz. average per contact pair using .0620" (±.0005") steel test blade.

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	30 mv @ 5 amps.
Current Rating:	5 amps continuous
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

STEP 1	2	3	4
HSD	22	D	0

Step 4
Mounting:
0 = standard .128" diameter holes
1 = floating bushing (#4-40 screw)
2 = #4-40 threaded inserts

Step 3
Termination Type:
D = dip solder, .156" × .140"
R = dip solder, .156" × .156"
S = solder eyelet, .156" × .156"
W = wire wrap, .156" × .156"

Step 2
Number of Contact Pairs:
10, 15, 18, 22, 36, 43.

Step 1
Insert Series Code (HSD or HMD)

Polarizing Keys:

In-Contact: .087" max. width.
Specify position(s).
Order separately. Cat. No. 109-5535.

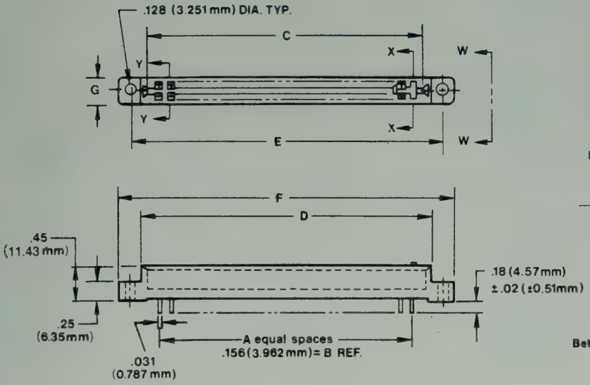
Between-Contact: .046" max. width.
Specify position(s).
Order separately. Cat. No. 109-9892.

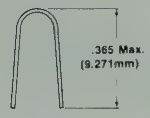
Example: To order an HSD/HMD connector with 22 contact pairs, size .156" x .156" dip solder contacts of standar gold-plated phosphor bronze and standard .128" diameter mounting holes, Code Ordering Number will b **HSD22R-0.** Specify complete connector by following steps 1 through 4, as indicated.

Example: To order an HSD/HMD connector with 22 contact pairs, size .156" x .140" dip solder contacts of standard gold-plated phosphor bronze and standard .128" diameter mounting holes, Code Ordering Number will be **HSD22D-0.** Specify complete connector by following steps 1 through 4, as indicated.

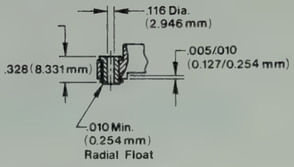
Edgecard .156" x .140" .156" x .156" Grid

Series HSD/HMD

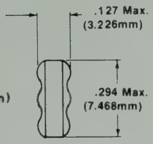




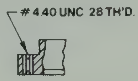
In-Contact Polarizing Key



Type 1 Mounting Option



Between-Contact Polarizing Key

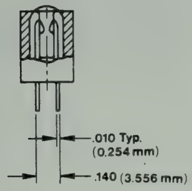


Type 2 Mounting Option

Section X-X

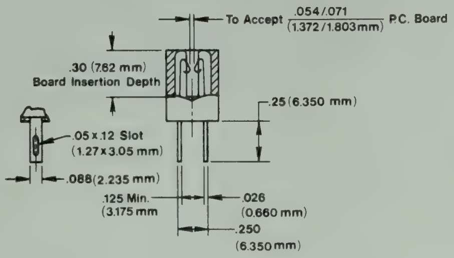
Polarizing Key In Contact Position

Type "D" Contact Shown
Dip Solder Contact



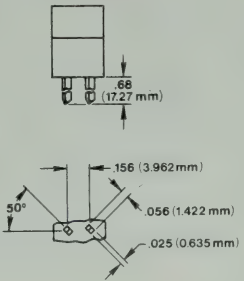
Section Y-Y

Type "S" Contact Shown
Solder Terminal



View W-W

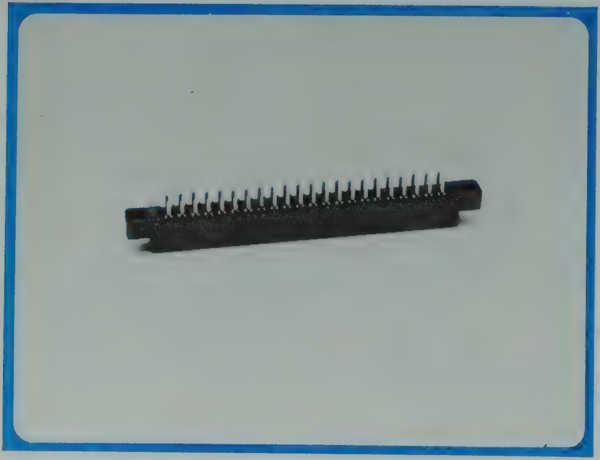
Type "W" Contact Shown
Wire Wrap Terminal



Dimensions

Catalog Number	A	B Ref.	C	D	E	F	G
HSD10/HMD10	9	1.404" (35.662mm)	1.724" (43.790mm)	1.87" (47.498mm)	2.156" (54.762mm)	2.47" (62.74mm)	.343" (8.712mm)
HSD15/HMD15	14	2.184" (55.474mm)	2.504" (63.602mm)	2.65" (67.310mm)	2.938" (74.625mm)	3.25" (82.55mm)	.343" (8.712mm)
HSD18/HMD18	17	2.652" (67.361mm)	2.972" (75.489mm)	3.12" (79.248mm)	3.406" (86.512mm)	3.72" (94.49mm)	.343" (8.712mm)
HSD22/HMD22	21	3.276" (83.210mm)	3.596" (91.338mm)	3.75" (95.250mm)	4.032" (102.413mm)	4.34" (110.24mm)	.343" (8.712mm)
HSD36/HMD36	35	5.460" (138.684mm)	5.778" (146.761mm)	5.91" (150.114mm)	6.220" (157.988mm)	6.53" (165.86mm)	.500" (12.700mm)
HSD43/HMD43	42	6.552" (166.421mm)	6.872" (174.549mm)	7.00" (177.800mm)	7.302" (185.471mm)	7.61" (193.29mm)	.500" (12.700mm)

HCB Series



Specifications

Insulators:	Black, glass-reinforced polyphenylene sulfide resin (thermoplastic).
Contacts:	Phosphor bronze, gold over copper.
Insertion/ Withdrawal Forces:	2 to 8 oz. average contact pair using .0620" (±.0005") steel test blade.

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	30 mv @ 5 amps.
Current Rating:	5 amps continuous
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

Example: To order an HCB Series connector with 22 solder eyelet contact pairs, .156" x .140" grid pattern, standard phosphor bronze, gold plated contacts and floating bushing with clearance hole mounting, Code Ordering Number will be: **HCB22S1.** Specify complete connector by following steps 1 through 5 as indicated.

STEP 1	2	3	4	5
HCB	22	S	1	

Step 5
Plating:
Blank = Standard 15μinch gold
Consult sales department for variations.

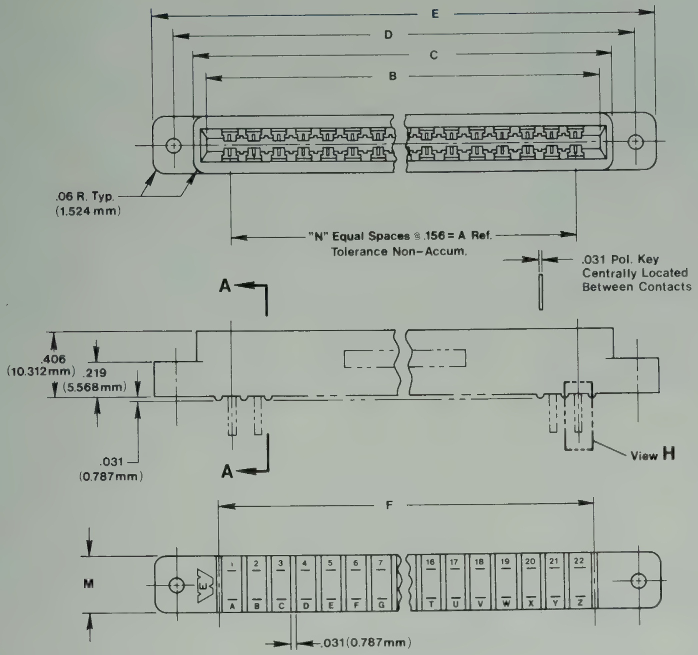
Step 4
Type of Mounting:
0 = .128" diameter mounting hole
1 = Floating bushing with clearance hole for #4 screw.
2 = Molded-in bushing with #4-40 threads.

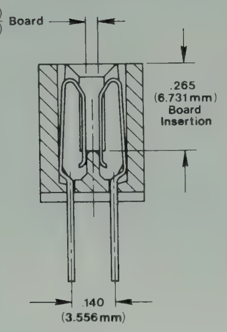
Step 3
Termination Type:
S = Solder Eyelet
D1 = Dip Solder .125" lg.
D2 = Dip Solder .200" lg.
D3 = Dip Solder .375" lg.

Step 2
Number of Contact Pairs:
6, 10, 15, 18, 22, 28, 36, 43

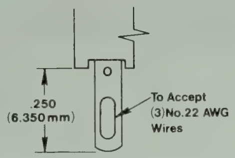
Step 1
Insert Series Code (HCB)

Between-Contact Polarizing Key:
.034" max. width.
Order separately. Cat. No. 109-101094.





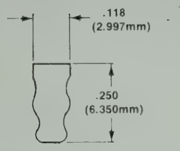
Section A-A



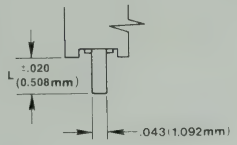
Solder Eyelet

View H

TYPE	L ± .020 (0.508mm)
D1	.125 (3.175mm)
D2	.200 (5.080mm)
D3	.375 (9.525mm)



Between-Contact Polarizing Key

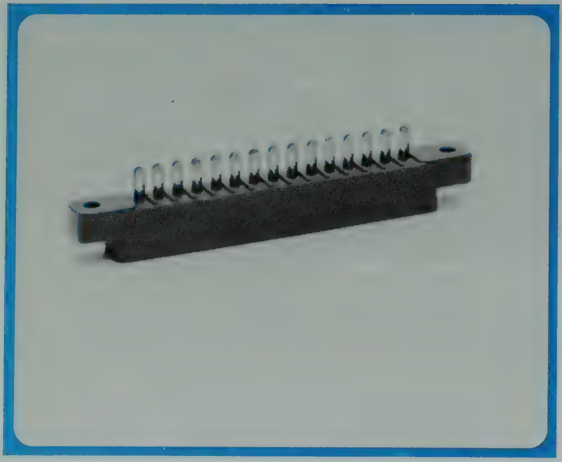


Dip Solder

Dimensions

Catalog Number	No. of Contacts	A	B	C	D	E	F	N	M
HCB6	12	.780" (19.812mm)	1.078" (27.381mm)	1.218" (30.937mm)	1.531" (38.887mm)	1.785" (45.339mm)	.936" (23.774mm)	5	.328" (8.331mm)
HCB10	20	1.404" (35.662mm)	1.703" (43.256mm)	1.843" (46.812mm)	2.156" (54.762mm)	2.410" (61.214mm)	1.560" (39.624mm)	9	
HCB15	30	2.184" (55.474mm)	2.484" (63.094mm)	2.624" (66.650mm)	2.937" (74.600mm)	3.191" (81.051mm)	2.340" (59.436mm)	14	
HCB18	36	2.652" (67.361mm)	2.953" (75.006mm)	3.093" (78.562mm)	3.406" (86.512mm)	3.660" (92.964mm)	2.808" (71.323mm)	17	
HCB22	44	3.276" (83.210mm)	3.578" (90.881mm)	3.717" (94.412mm)	4.031" (102.387mm)	4.285" (108.839mm)	3.432" (87.172mm)	21	
HCB28	56	4.212" (106.985mm)	4.512" (114.605mm)	4.652" (118.161mm)	4.965" (126.111mm)	5.219" (132.563mm)	4.368" (110.947mm)	27	
HCB36	72	5.460" (138.684mm)	5.760" (146.304mm)	5.900" (148.860mm)	6.213" (157.810mm)	6.467" (164.262mm)	5.616" (142.646mm)	35	.437" (11.100mm)
HCB43	86	6.552" (166.421mm)	6.802" (172.77mm)	6.992" (177.597mm)	7.305" (185.547mm)	7.559" (191.999mm)	6.708" (170.383mm)	42	

HK/HB Series



Specifications

Insulators:	HK — Glass-filled phenolic per MIL-M-14, Type MFH. HB — Diallyl phthalate per MIL-M-14, Type SDG-F.
Contacts:	Phosphor bronze, gold over copper.
Insertion/ Withdrawal Forces:	2 to 8 oz. average per contact pair using .0620" (±.0005") steel test blade.

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	30 mv @ 5 amps.
Current Rating:	5 amps continuous
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

Example: To order an HK Series connector with 15 contact positions, solder eyelet terminations, standard .128" diameter mounting holes and in-contact polarizing key, code ordering number will be: **HK15SOC.** Specify complete connector by following steps 1 through 5. Omit steps not required.

STEP 1	2	3	4	5
HK	15	S	0	C

Step 5
Polarizing Keys:
Specify contact position(s) by numbers when required for in-contact polarization, or two adjacent positions for between-contact polarization. Omit step if polarization is not required.

Step 4
Mounting:
0 = standard .128" diameter holes.
1 = floating bushing (#4-40 screw).
2 = #4-40 threaded inserts.

Step 3
Termination Type:
S = Solder eyelet
D = Dip solder

Step 2
Number of Contact Positions:
6, 15, 18, 22, 28,

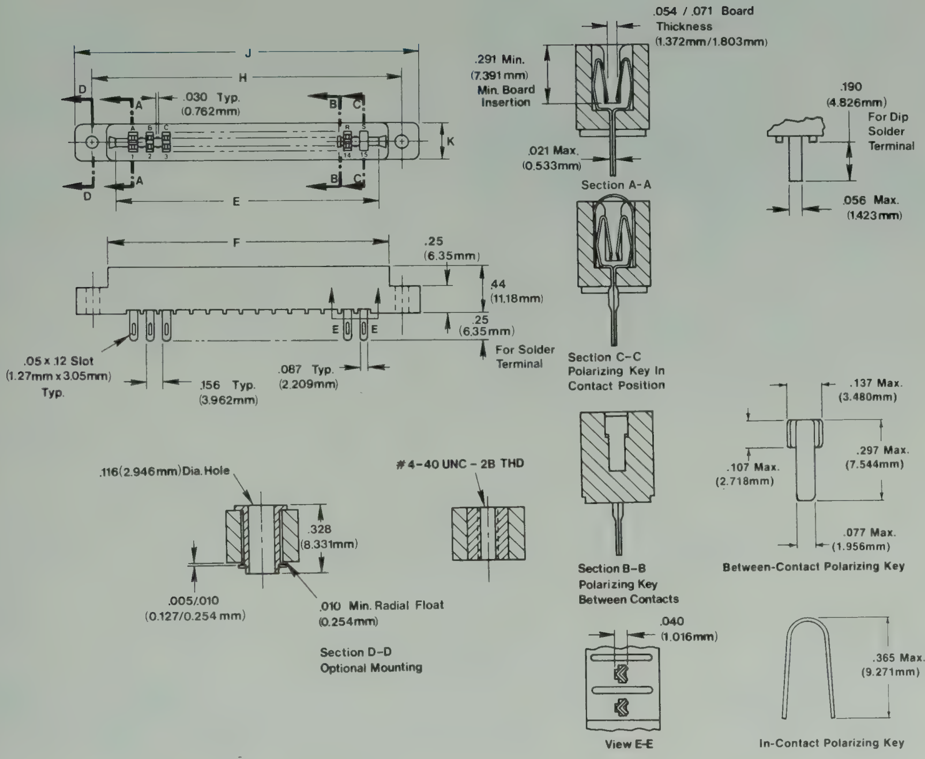
Step 1
Insert Series Code (HK or HB)

Polarizing Keys:

In-Contact: .087" max. width.
Order separately. Cat. No. 109-5535.

Between-Contact: .052" max. width.
Order separately. Cat. No. 109-8225.

Edgecard .156" Single Row Grid Series HK/HB



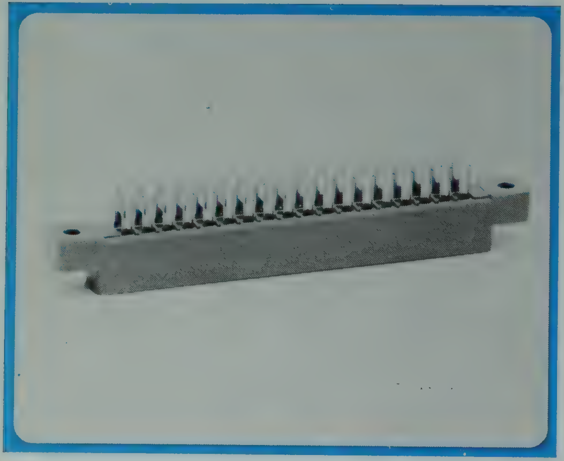
Dimensions

Catalog Number	Positions	E	F	H	J Max.	K
HK6/HB6	6	1.100" (27.940mm)	1.25" (31.75mm)	1.532" (38.913mm)	1.864" (47.346mm)	.343" (8.712mm)
*HK10/*HB10	10	1.724" (43.789mm)	1.87" (47.49mm)	2.156" (54.762mm)	2.488" (63.195mm)	.343" (8.712mm)
HK15/HB15	15	2.504" (63.601mm)	2.66" (67.56mm)	2.938" (74.625mm)	3.268" (83.007mm)	.343" (8.712mm)
HK18/HB18	18	2.972" (75.488mm)	3.12" (79.25mm)	3.406" (86.512mm)	3.736" (94.894mm)	.343" (8.712mm)
HK22/HB22	22	3.596" (91.338mm)	3.75" (95.25mm)	4.032" (102.413mm)	4.360" (110.744mm)	.343" (8.712mm)
HK28/HB28	28	4.532" (115.113mm)	4.65" (118.11mm)	4.964" (126.086mm)	5.284" (134.214mm)	.500" (12.700mm)
*HK36/*HB36	36	5.778" (146.761mm)	5.90" (149.86mm)	6.220" (157.988mm)	6.543" (166.192mm)	.500" (12.700mm)*
*HK43/*HB43	43	6.872" (174.548mm)	7.00" (177.80mm)	7.302" (185.471mm)	7.631" (193.827mm)	.500" (12.700mm)*

*Symbol indicates size not tooled.

HCA Series

.156" x .200" Grid Edgecard



Specifications

Insulators:	Black, glass-reinforced polyphenylene sulfide resin (thermoplastic).
Contacts:	Phosphor bronze, gold over copper.
Insertion/ Withdrawal Forces:	2 to 8 oz. average contact pair using .0620" (±.0005") steel test blade.

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	30 mv @ 5 amps.
Current Rating:	5 amps continuous.
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

Example: To order an HCA Series connector with 18 solder eyelet contact pairs, .156" x .200" grid pattern, standard phosphor bronze, gold plated contacts and molded-in #4-40 mounting bushings, Code Ordering Number will be: **HCA18S2.** Specify complete connector by following steps 1 through 5 as indicated.

STEP 1	2	3	4	5
HCA	18	S	2	

Step 5
Plating:
Blank = Standard 15u inch gold.
Consult sales department for variations.

Step 4
Type of Mounting:
0 = .128" diameter mounting hole
1 = Floating bushing with clearance hole for #4 screw
2 = Molded-in bushing with #4-40 threads.

Step 3
Termination Type:
S = Solder Eyelet
D1 = Dip Solder .156" lg.
D2 = Dip Solder .200" lg.
D3 = Dip Solder .250" lg.

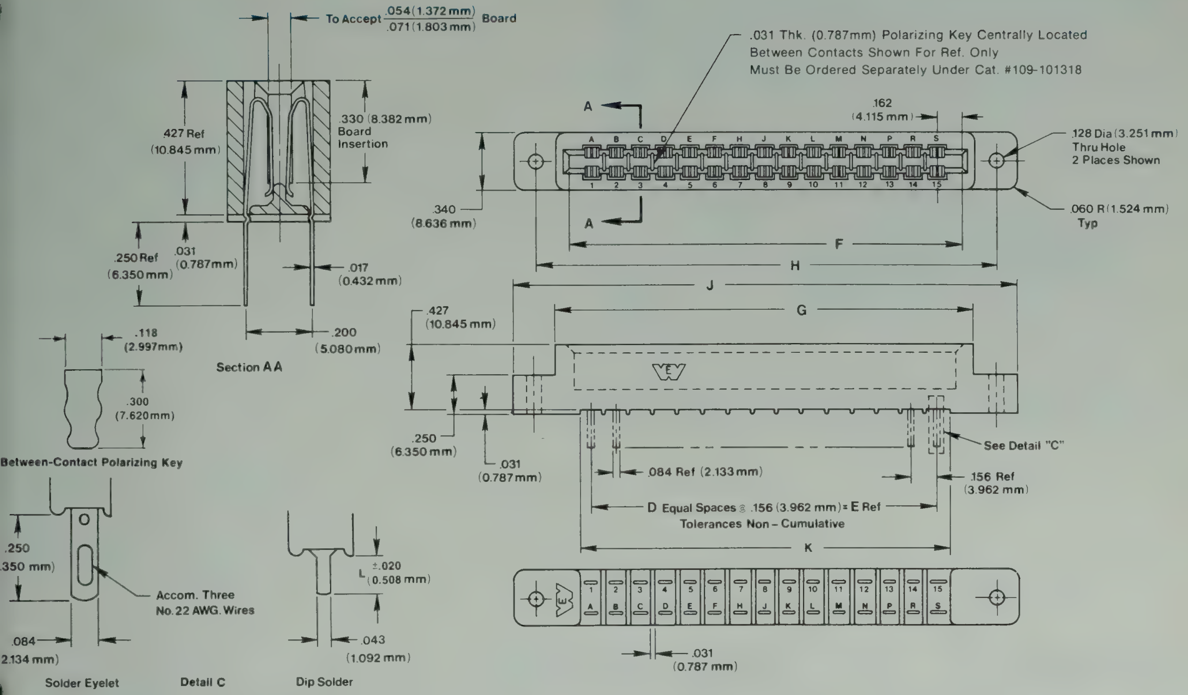
Step 2
Number of Contact Pairs:
6, 10, 15, 18, 22, 25.

Step 1
Insert Series Code (HCA)

Between-Contact Polarizing Key:
034" max. width.
Order separately. Cat. No. 109-101318.

Edgecard .156" x .200" Grid

Series HCA

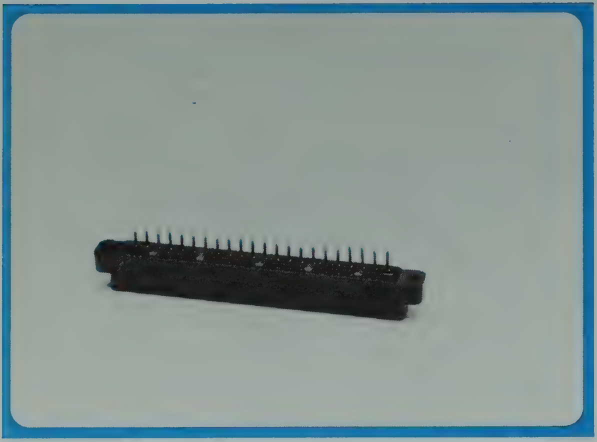

To Accept .054 (1.372 mm) / .071 (1.803 mm) Board
.427 Ref (10.845 mm)
.330 (8.382 mm) Board Insertion
.250 Ref (6.350 mm)
.031 (0.787mm)
.017 (0.432 mm)
.200 (5.080 mm)
Section AA
.118 (2.997mm)
.300 (7.620mm)
Between-Contact Polarizing Key
.250
350 mm)
Accom. Three No. 22 AWG. Wires
.084
2.134 mm)
Solder Eyelet
Detail C
L ±.020 (0.508 mm)
.043 (1.092 mm)
Dip Solder
.031 Thk. (0.787mm) Polarizing Key Centrally Located Between Contacts Shown For Ref. Only Must Be Ordered Separately Under Cat. #109-101318
A
.162 (4.115 mm)
A B C D E F H J K L M N P R S
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
.128 Dia (3.251 mm) Thru Hole 2 Places Shown
.340 (8.636 mm)
.060 R (1.524 mm) Typ
F
H
J
G
.427 (10.845 mm)
.250 (6.350 mm)
.031 (0.787 mm)
See Detail "C"
.084 Ref (2.133 mm)
.156 Ref (3.962 mm)
D Equal Spaces @ .156 (3.962 mm) = E Ref Tolerances Non – Cumulative
K
.031 (0.787 mm)

TYPE	L ± .020 (0.508mm)
D1	.156 (3.962mm)
D2	.200 (5.080mm)
D3	.250 (6.350mm)

Dimensions

Catalog Number	Number of Contacts	D	E	F	G	H	J	K
HCA6	12	5	.780" (19.812mm)	1.100" (27.940mm)	1.239" (31.471mm)	1.531" (38.887mm)	1.785" (45.339mm)	.905" (22.987mm)
HCA10	20	9	1.404" (35.662mm)	1.724" (43.790mm)	1.864" (47.346mm)	2.156" (54.762mm)	2.410" (61.214mm)	1.529" (38.837mm)
HCA15	30	14	2.184" (55.474mm)	2.504" (63.602mm)	2.645" (67.183mm)	2.937" (74.600mm)	3.191" (81.051mm)	2.309" (58.649mm)
HCA18	36	17	2.652" (67.361mm)	2.972" (75.489mm)	3.114" (79.096mm)	3.406" (86.512mm)	3.660" (92.964mm)	2.777" (70.536mm)
HCA22	44	21	3.276" (83.210mm)	3.596" (91.338mm)	3.739" (94.971mm)	4.031" (102.387mm)	4.285" (108.839mm)	3.401" (86.385mm)
HCA25	50	24	3.744" (95.098mm)	4.067" (103.302mm)	4.208" (106.883mm)	4.500" (114.300mm)	4.754" (120.757mm)	3.869" (98.273mm)

8B Series



Specifications

Insulators:	Black, glass-filled Phenolic per MIL-M-14, Type MFH.
Contacts:	**Standard Contacts:** phosphor bronze, gold plate over copper per QQ-B-750. **W Type Contact:** beryllium copper, gold plate over nickel over copper per QQ-B-533.
Insertion/ Withdrawal Forces:	2 to 8 oz. average contact pair using .0620" (±.0005") steel test blade.

ELECTRICAL CHARACTERISTICS:

Contact Resistance:	30 mv @ 5 amps.
Current Rating:	3 amps continuous.
Test Voltage:	1800 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Ordering Information

Example: To order an 8B Series connector with 22 contact positions of dip solder type, standard gold-plated, phosphor bronze contacts, and in-contact polarization keys, code ordering number will be: **8B22D-2/15.** Specify complete connector by following steps 1 through 4 as indicated. Omit steps not needed. Polarizing keys may be ordered separately.

STEP 1	2	3	4
8B	22	D	2/15

Step 4

Polarization Keys:
Specify contact position(s) by numbers when required for in-contact polarization, or two adjacent positions for between-contact polarization. Omit step if polarization is not required.

Step 3

Termination Type:

D = Dip solder
G = Dip solder, surface termination (for double row only)
L = 90° dip solder, low profile
M = 90° dip solder (for double row only)
ML = 90° dip solder, surface termination
MR = 90° dip solder
S = Solder eyelet
W = Wire wrap, beryllium copper only

Step 2

Number of Contact Positions (Single Row):
6, 10, 12, 15, 18, 22, 28, 30.

Number of Contact Pairs (Double Row):
6, 10, 12, 15, 18, 22, 28, 30.

Step 1

Insert Series Code:

8B = vertical mounting, single row
8BJ = side mounting, single row
8BD = vertical mounting, double row
8BDJ = side mounting, double row

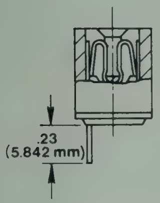
Polarizing Keys:

In-Contact: .069" max. width.
Order separately. Cat. No. 109-3386.

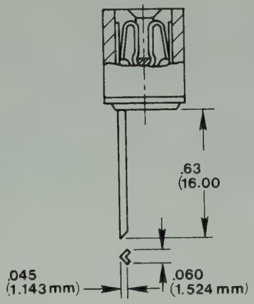
Between-Contact: .129" max. width.
Order separately. Cat. No. 109-8597.

8B, 8BJ—Terminations For Single Row Connectors

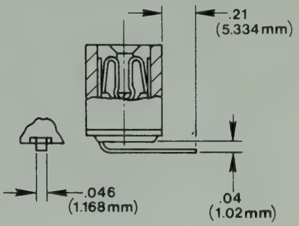
Type D, Dip Solder



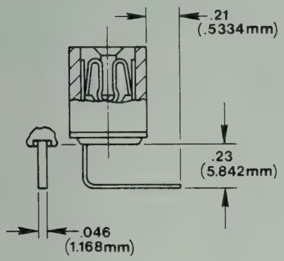
Type W, Wire Wrap



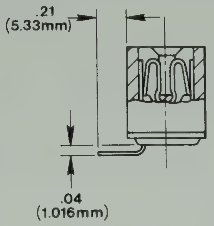
Type L, 90° Dip Solder, Low Profile



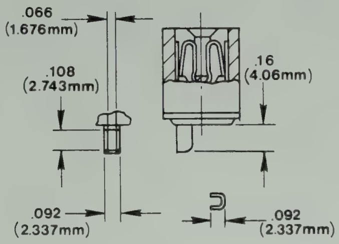
Type MR, 90° Dip Solder



Type ML, 90° Dip Solder, Surface Termination

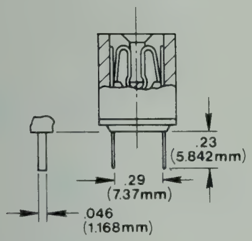


Type S, Solder Eyelet

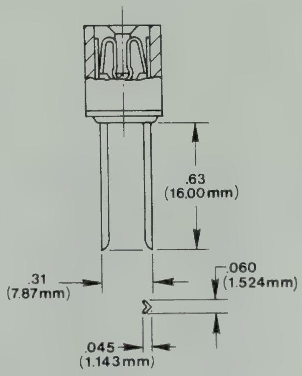


8BD, 8BDJ—Terminations For Double Row Connectors

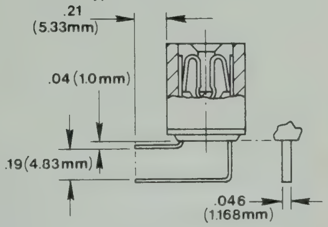
Type D, Dip Solder



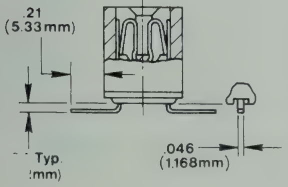
Type W, Wire Wrap



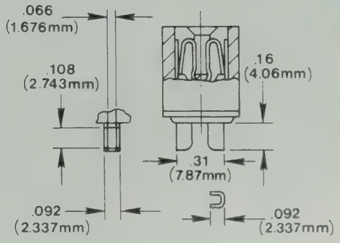
Type M, 90° Dip Solder



Type G, Dip Solder, Surface Termination

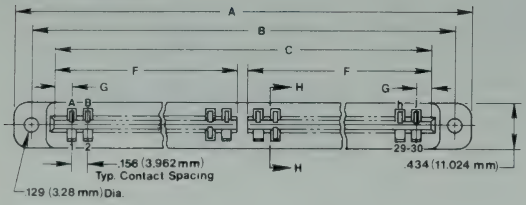


Type S, Solder Eyelet

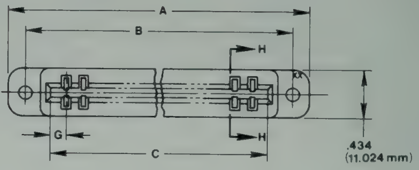


8B/8BD Vertical Mounting

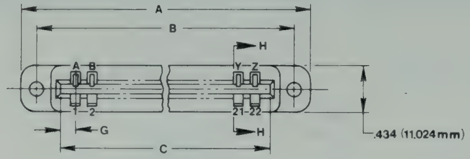
28 & 30 Position 8B & 8BD



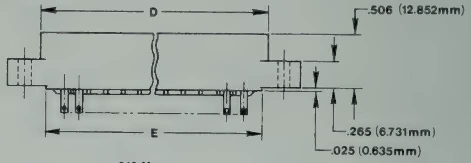
8BD Double Row

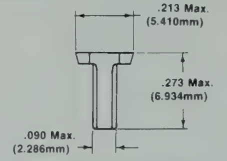


8B Single Row

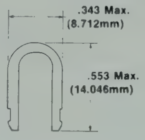


8B and 8BD





Between-Contact Polarizing Key



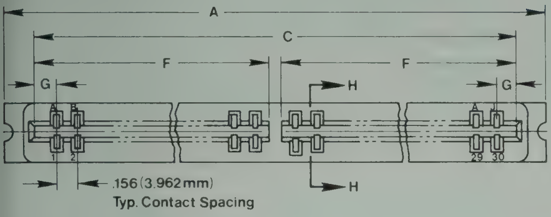
In-Contact Polarizing Key

Dimensions

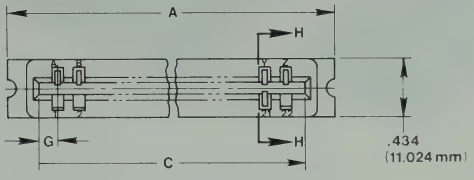
Catalog Number	A	B	C	D	E	F	G
8B/8BD6	1.777" (45.136mm)	1.529" (38.836mm)	1.098" (27.889mm)	1.329" (33.756mm)	1.123" (28.524mm)		.159" (4.039mm)
8B/8BD10	2.399" (60.935mm)	2.151" (54.635mm)	1.722" (43.738mm)	1.951" (49.555mm)	1.745" (44.323mm)		.159" (4.039mm)
8B/8BD12	2.711" (68.859mm)	2.463" (62.560mm)	2.036" (51.714mm)	2.263" (57.480mm)	2.057" (52.248mm)		.160" (4.064mm)
8B/8BD15	3.180" (80.772mm)	2.932" (74.413mm)	2.504" (63.602mm)	2.732" (69.392mm)	2.526" (64.160mm)		.160" (4.064mm)
8B/8BD18	3.650" (92.710mm)	3.402" (86.411mm)	2.972" (75.489mm)	3.202" (81.331mm)	2.996" (76.098mm)		.164" (4.165mm)
8B/8BD22	4.272" (108.509mm)	4.024" (102.210mm)	3.590" (91.186mm)	3.824" (97.130mm)	3.618" (91.897mm)		.157" (3.988mm)
8B/8BD28	5.363" (136.220mm)	5.081" (129.057mm)	4.635" (117.729mm)	4.805" (122.041mm)	4.679" (118.897mm)	2.287" (58.090mm)	.151" (3.835mm)
8B/8BD30	5.937" (150.800mm)	5.625" (142.875mm)	5.105" (129.667mm)	5.301" (134.645mm)	5.221" (132.613mm)	2.500" (63.500mm)	.151" (3.835mm)

8BJ/8BDJ Side Mounting

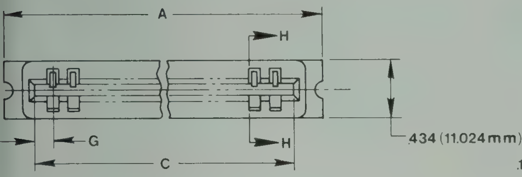
28 & 30 Position 8BJ & 8BDJ



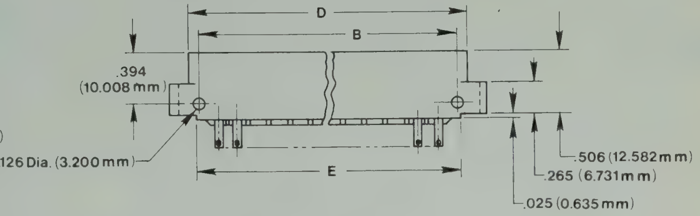
8BDJ Double Row



8BJ Single Row



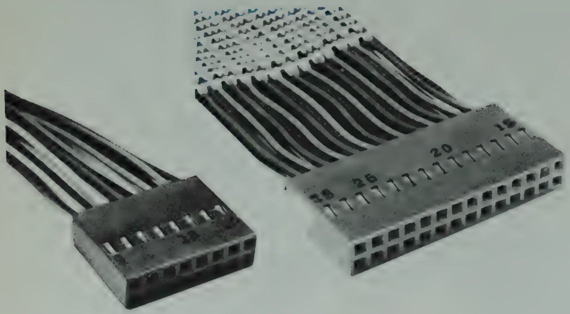
8BJ and 8BDJ



Dimensions

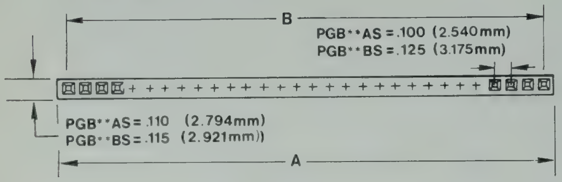
Catalog Number	A	B	C	D	E	F	G
8BJ/8BDJ6	1.529″ (38.836mm)	1.140″ (28.956mm)	1.098″ (27.889mm)	1.329″ (33.757mm)	1.123″ (28.524mm)		.159″ (4.039mm)
8BJ/8BDJ10	2.151″ (54.635mm)	1.764″ (44.806mm)	1.722″ (43.738mm)	1.951″ (49.555mm)	1.745″ (44.323mm)		.159″ (4.039mm)
8BJ/8BDJ12	2.463″ (62.560mm)	2.079″ (52.807mm)	2.036″ (51.714mm)	2.263″ (57.480mm)	2.057″ (52.298mm)		.160″ (4.064mm)
8BJ/8BDJ15	2.932″ (74.472mm)	2.549″ (64.745mm)	2.504″ (63.602mm)	2.732″ (69.393mm)	2.526″ (64.160mm)		.160″ (4.064mm)
8BJ/8BDJ18	3.402″ (86.411mm)	3.017″ (76.632mm)	2.972″ (75.489mm)	3.202″ (81.331mm)	2.996″ (76.098mm		.164″ (4.165mm)
8BJ/8BDJ22	4.024″ (102.211mm)	3.641″ (92.481mm)	3.590″ (91.186mm)	3.824″ (97.130mm)	3.618″ (91.897mm)		.157″ (3.988mm)
8BJ/8BDJ28	5.081″ (129.057mm)	4.697″ (119.304mm)	4.635″ (117.729mm)	4.805″ (122.097mm)	4.679″ (118.847mm)	2.287″ (58.090mm)	.151″ (3.835mm)
8BJ/8BDJ30	5.625″ (142.875mm)	5.240″ (133.096mm)	5.105″ (129.667mm)	5.301″ (134.645mm)	5.221″ (132.613mm)	2.500″ (63.500mm)	.151″ (3.835mm)

PGB Series



.100" Contact Centers - PGBAS Series**
.125" Contact Centers - PGBBS Series**
.100" x .100" Grid
(Double Row) - PGBA Series**
.125" x .125" Grid
(Double Row) - PGBB Series**
.100" x .200" Grid
(Double Row) - PGBC Series**
.125" x .250" Grid
(Double Row) - PGBD Series**

Single Row: PGBAS, .100" GRID**
PGBBS, .125" GRID**



B
PGB**AS = .100 (2.540mm)
PGB**BS = .125 (3.175mm)
PGB**AS = .110 (2.794mm)
PGB**BS = .115 (2.921mm)
A

Ordering Information

Example: To order a PGB insulator with 25 contacts and .125" single row grid spacing, Code Ordering Number will be: **PGB25BS.** Specify complete insulator by following steps 1 through 3 as indicated.

Insulators:

STEP 1	2	3
PGB	25	BS

Step 3
Grid Spacing:
A = .100" x .100" double row*
AS = .100" single row
B = .125" x .125" double row*
BS = .125" single row
C = .100" x .200" double row*
D = .125" x .250" double row*

Step 2
Number of Contact Positions:
10, 15, 20, 25, 30, 35, 40 single row
10, 15, 20, 25, 30, 35, 40, 51 contact pairs

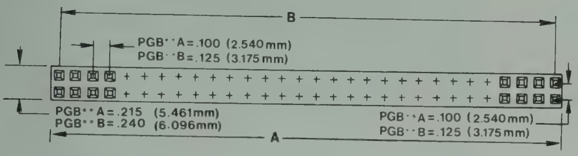
Step 1
Insert Series Code (PGB)

PGB**AS, **BS Dimensions

Number of Contact Positions** PGB**AS PGB**BS Both 40 Max	A		B	
	PGB**AS	PGB**BS	PGB**AS	PGB**BS
	.100" (2.540mm)	.125" (3.175mm)	.100" (2.540mm)	.125" (3.175mm)
10	.995" (25.273mm)	1.240" (31.496mm)	.900" (22.860mm)	1.125" (28.575mm)
15	1.495" (37.973mm)	1.865" (47.371mm)	1.400" (35.560mm)	1.750" (44.450mm)
20	1.995" (50.673mm)	2.490" (63.246mm)	1.900" (48.260mm)	2.375" (60.325mm)
25	2.495" (63.373mm)	3.115" (79.121mm)	2.400" (60.960mm)	3.000" (76.200mm)
30	2.995" (76.073mm)	3.740" (94.996mm)	2.900" (73.660mm)	3.625" (92.075mm)
35	3.495" (88.773mm)	4.365" (110.871mm)	3.400" (86.360mm)	4.250" (107.950mm)
40	3.995" (101.473mm)	4.990" (126.746mm)	3.900" (99.060mm)	4.875" (123.825mm)

For dimensions not shown, each additional contact position added to the PGBAS increased "A" and "B" dimensions by .100" (2.540mm). Each additional PBG**BS contact position increased "A" and "B" dimensions by .125" (3.175mm).

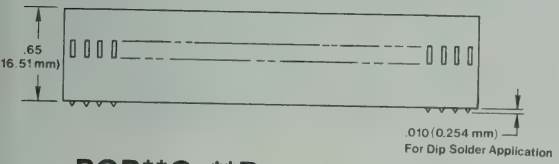
Double Row: PGBA, .100″ x .100″ GRID**
PGBB, .125″ x .125″ GRID**



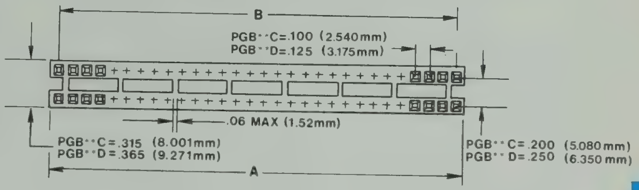
PGB**A, **B Dimensions

Number of Contact Pairs** PGB**A 40 Maximum PGB**B 40 Maximum	A		B	
	PGB**A	PGB**B	PGB**A	PGB**B
	.100″ × .100″ (2.540 × 2.540mm)	.125″ × .125″ (3.175 × 3.175mm)	.100″ × .100″ (2.540 × 2.540mm)	.125″ × .125″ (3.175 × 3.175mm)
15	1.495″ (37.963mm)	1.865″ (47.371mm)	1.400″ (35.560mm)	1.750″ (44.450mm)
20	1.995″ (50.673mm)	2.490″ (63.246mm)	1.900″ (48.260mm)	2.375″ (60.325mm)
25	2.495″ (63.373mm)	3.115″ (79.121mm)	2.400″ (60.960mm)	3.000″ (76.200mm)
30	2.995″ (76.073mm)	3.740″ (94.996mm)	2.900″ (73.660mm)	3.625″ (92.075mm)
35	3.495″ (88.773mm)	4.365″ (110.871mm)	3.400″ (86.360mm)	4.250″ (107.95mm)
40	3.995″ (101.473mm)	4.990″ (126.746mm)	3.900″ (99.060mm)	4.875″ (123.825mm)

For dimensions not shown each additional contact pair added to the PGBA increases "A" and "B" dimensions by .100″ (2.540mm). Each additional PGB**B contact pair increases "A" and "B" dimensions by .125″ (3.175mm).



Double Row: PGBC, .100″ x .200″ GRID**
PGBD, .125″ x .250″ GRID**



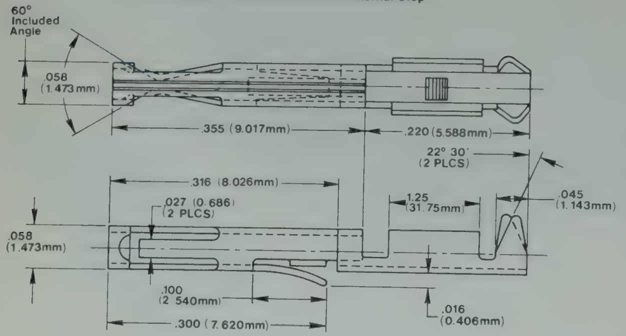
PGB**C, **D

Number of Contact Pairs** PGB**C 40 Maximum PGB**D 51 Maximum	A		B	
	PGB**C	PGB**D	PGB**C	PGB**D
	.100″ × .200″ (2.540 × 5.080mm)	.125″ × .250″ (3.175 × 6.350mm)	.100″ × .200″ (2.540 × 5.080mm)	.125″ × .250″ (3.175 × 6.350mm)
15	1.495″ (37.973mm)	1.865″ (47.371mm)	1.400″ (35.560mm)	1.750″ (44.450mm)
20	1.995″ (50.673mm)	2.490″ (63.246mm)	1.900″ (48.260mm)	2.375″ (60.325mm)
25	2.495″ (63.373mm)	3.115″ (79.121mm)	2.400″ (60.960mm)	3.000″ (76.200mm)
30	2.995″ (76.073mm)	3.740″ (94.996mm)	2.900″ (73.660mm)	3.625″ (92.075mm)
35	3.495″ (88.773mm)	4.365″ (110.871mm)	3.400″ (86.360mm)	4.250″ (107.950mm)
40	3.995″ (101.473mm)	4.990″ (126.746mm)	3.900″ (99.060mm)	4.875″ (123.825mm)
51		6.365″ (161.671mm)		6.250″ (158.750mm)

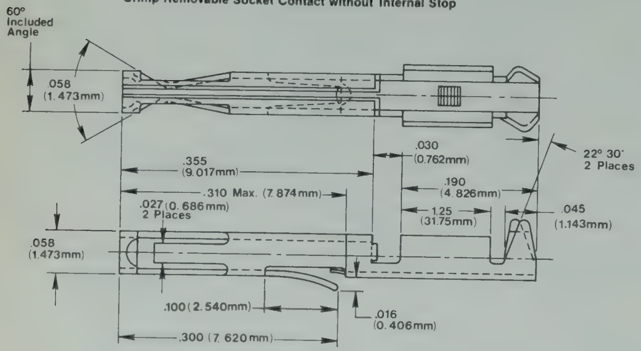
For dimensions not shown each additional contact pair added to the PGBC increases "A" and "B" dimensions by .100″ (2.540mm). Each additional PGB**D contact pair increases "A" and "B" dimensions by .125″ (3.175mm).

PGB Series

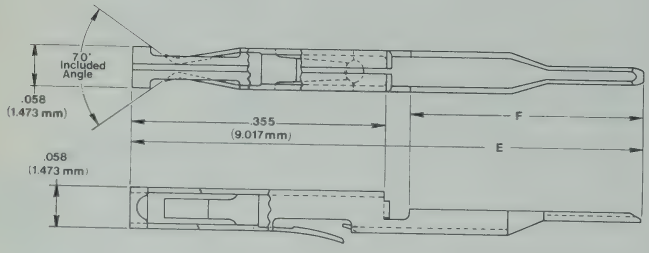
Crimp Removable Socket Contact with Internal Stop



Crimp Removable Socket Contact without Internal Stop



Dip Solder Contact



PGB Dip Solder Contacts

Catalog Number	E	F	P.C. Board Suitability
100-701DS (Reel) 100-721DS (Single)	.815 (20.701mm)	.425 (10.795mm)	For .125 Thk P.C. Board (3.175mm)
100-700DS (Reel) 100-720DS (Single)	.715 (18.161mm)	.325 (8.255mm)	For .062 Thk P.C. Board (1.574mm)

Example: To order PGB Series crimp removable contacts on reels, with no positive post stop, with wire size 26 AWG, in socket configuration, code ordering number will be: **100-70126S.** Specify crimp removable contact order by following steps 1 through 6 as indicated.

Crimp Removable Contacts

STEP 1	2	3	4	5	6
100	7	0	1	26	S

Step 6
Insert Socket Contact(s)

Step 5
Wire Barrel Size:
20 = wire sizes 20, 22, 24 AWG
26 = wire sizes 26, 28, 30 AWG

Step 4
Post Stop:
0 = positive post stop
1 = no positive post stop

Step 3
Contact Packaging:
0 = contacts on reels
1 = contacts on strip
2 = single contacts

Step 2
PGB Series Type:
For .025" square posts.

Step 1
Insert Basic Contact Series

Ordering Information

Example: To order PGB Series dip solder contacts on reels, suitable for .062" thick P.C. board, socket configuration, code ordering number will be: **100-700S.** Specify dip solder contact order by following steps 1 through 5 as indicated.

Dip Solder Contacts

STEP 1	2	3	4	5
100	7	0	0	DS

Step 5
Insert Dip Solder Socket Contact(s)

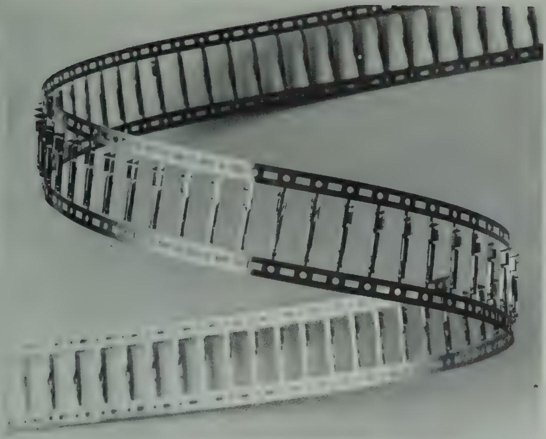
Step 4
P.C. Board Suitability:
0 = for .062" thick P.C. board
1 = for .125" thick P.C. board

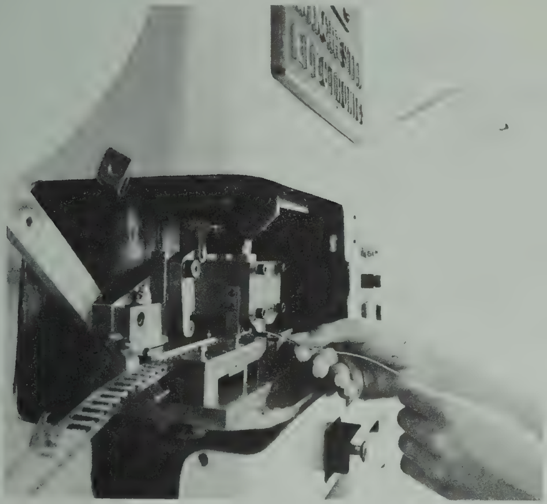
Step 3
Contact Packaging:
0 = contacts on reels
2 = single contacts

Step 2
PGB Series Type:
For .025" square posts.

Step 1
Insert Basic Contact Series

Series PGB





ELECTRICAL CHARACTERISTICS:

Contact Resistance:	12 mv @ 3 amps.
Current Rating:	3 amps continuous.
Recommended Operating Voltage:	250 VAC RMS.
Operating Temperatures:	-65°C to +125°C.

Specifications

Insulators:	Green glass-filled polyester thermoplastic.	
Contacts:	Phosphor bronze, gold over copper.	
Wire Range:	20 - 30 AWG.	
Crimp Strength:	**Wire Size**	**Min. Tensile (lbs.)**
	20	20.0
	22	12.0
	24	8.0
	26	4.5
	28	2.7
	30	1.5
Retention in Molding:	4.5 lbs. min.	
Insertion/ Withdrawal	8 oz. max. insertion, 2 oz. min. withdrawal (.025" square test pin).	

Automatic Feed Crimping Machine

This automatic, bench-mounted machine will deliver 1,000 crimps per hour. It has a large 10,000 contacts per reel cpacity and is easily operated with a convenient foot valve control. Wire is automatically crimped and contact cut from strip.

Hand Operated Crimping Tool

Our rugged, easy-to-operate hand tool accepts short contact strips (20 contacts per strip) for your short run needs.

PGB Crimper

Our PGB Crimper is capable of crimping solid or stranded wire 20 thru 30 AWG, using Winchester Electronics 100-70126S, 100-70026S, 100-70120S, 100-70020S socket contacts.

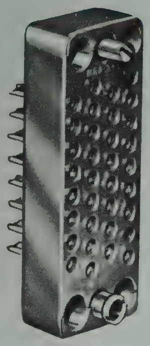
DESCRIPTION OF TOOL	TOOL CAT. NO.	CONTACT CAT. NO	WIRE SIZES
PGB BENCH CRIMPER Consists of: 107-1079 Press 107-0529 Applicator (Crimps contacts on reels)	107-0535	100-70020 S 100-70120 S	20-22-24
		100-70026 S 100-70126 S	26-28-30
HAND OPERATED CRIMP TOOL (Crimps contacts on strips)	107-0525	100-71026 S 100-71126 S	26-28-30
HAND OPERATED CRIMP TOOL (Crimps contacts on strips)	107-0526	100-71020 S 100-71120 S	20-22-24
EXTRACTION TOOL	107-1060	Removes any size contact	———
G DIMENSION TOOL	107-1240	Used in conjunction with 107-0525 crimper	24-26-28-30
G DIMENSION TOOL	107-1241	Used in conjunction with 107-0526 crimper	20-22-24

Rack & Panel Standard Connectors

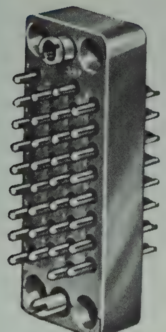
The rectangular, miniature and subminiature connectors, and removable contacts, tools and accessories included in this section constitute the accepted "standard" lines of connectors for which Winchester Electronics has been well-known since its inception in 1941.

In addition to developing lines of connectors from within our company, we are proud of the fact that some of our most successful, and widely imitated families of standard connectors have evolved from designs originally created to satisfy customer requirements for "specials." Our MRE Series, MRA, XMRE, XMRA, EMRE and EMRA are all examples of customer-originated connectors.

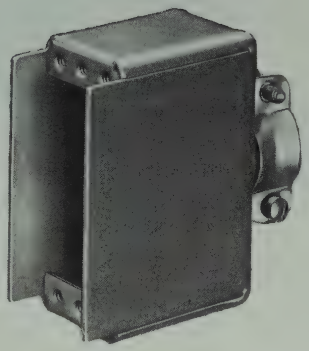
PAGE NO.	SERIES	DESCRIPTION	CONTACTS
RECTANGULAR CONNECTORS - MINIATURE, SUBMINIATURE AND ENVIRONMENTAL			
1-9	Series MRA	Miniature #16 Contacts	9,14,20,34,41,42,50,50-8,66,75,104
10-19	Series MRE	Miniature #20 Contacts	7,5-3,7-2,8,9,11,14,18,20,21,26,34,41,42,50,75,104
20-29	Series XMRE	External Miniature #20 Contacts	9,14,18,20,26,34,42,50,75,104
20-29	Series XMRA	External Miniature #16 Contacts	9,14,20,34,42,50,50-8,66,75,104
30-33	Series SLE/SME/SRE	Subminiature #22 Contacts	4,5,7,9,11,14,20,26,29,34,44,50
34-39	Series SRM	Subminiature #20 Contacts	5,7,11,14,20,26,34,50,75,104
40-41	Series 42	Panel Mounting Min. #22 Contacts	50,74
RECTANGULAR CONNECTORS - REMOVABLE CONTACTS			
42-49	Series MRAC	Miniature	9,14,18,20,26,34,41,42,50,66,75,104
50-59	Series XAC	External Miniature	9,14,18,20,26,34,42,50,66,75,104
60-62	Series SREC	Subminiature	7,11,14,18,20,26,34,44,50
REMOVABLE CONTACTS AND ACCESSORIES			
63-66	Series 100	Removable Contacts	
67-70	Series 107	Tools & Accessories	
CIRCULAR AND MINIATURE QUICK DISCONNECT			
71-73	Series M	H/V Min. Round #20 Contacts	4,5,7,9,10,12
74	Series PM 1	H/V Min. #20 Contacts	1
75	Series PM 6	H/V Min. #20 Contacts	6
76-77	Series SM	Submin. Environmental	1,2,3
78-79	Series JF	Min. Side Mounting	2,4
80-81	Series JFA	Min. Side Mounting	2



Receptacle
MRA 34S-G



Plug
MRA 34P-G



Hood
MRE 34H

The MRA Series offers compact, lightweight and self-aligning plugs and receptacles with unusually high current and voltage ratings for their size. Performance tests show them to well exceed military standards. Except for contact size, the MRA Series is interchangeable with the MRE Series.

Specifications

Current Rating: 13 amps

No. of contacts: 9, 14, 20, 34, 41, 42, 50, 50-8, 66, 75, 104

Pin Contacts: .062 diameter, gold plated brass

Socket Contacts: Spring temper phosphor bronze, gold plated

Terminations: .070 dia. solder cup is standard. Will accommodate up to #16 AWG stranded wire. Pin and Socket contacts available with .030 diameter dip solder terminations. Consult Sales Dept. for lengths available.

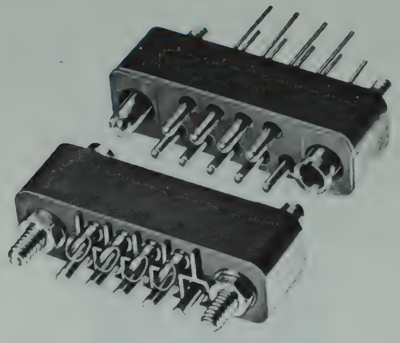
Electrical Data: Meets high potential performance of MIL-C-28748. Military versions are QPL'd to M28748/1 and M28748/2. The minimum dielectric withstanding voltage is one minute electrification 1000 VAC, sea level.

Dielectric: Brown mineral filled diallyl phthalate. Also available in gray glass filled diallyl phthalate.

Polarization: Gold plated guide sockets are provided to give positive polarization. Polarized jackscrews of passivated stainless steel and anodized aluminum hoods are also available.

Hoods: Anodized aluminum. May be applied to either plug or receptacle. Both top and side opening hoods available.

MRA



MRA-50-8

Termination Types

Dip Solder:

For mounting on printed circuit boards or for use with flexible cable, .030 diameter dip solder terminations (for Pin and Socket Contacts) are available. Consult the Sales Department for available lengths.

Solder Cup:

.070 diameter solder cup is the standard termination for cable and panel mounting applications. It will accept up to #16 AWG stranded wire.

CONTACTS	CURRENT RATING	PIN DIAMETER	MAX. WIRE SIZE	SOLDER CUP DIA
8	20 Amps.	.093	#12 AWG	.106 D
50	13 Amps.	.062	#16 AWG	.070 D

PHYSICAL DATA

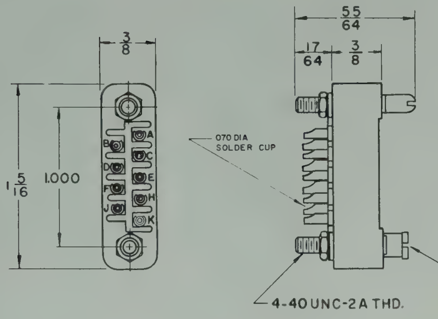
WEIGHT IN OZ.	NUMBER OF CONTACTS										
	9	14	20	34	41	42	50	50-8	66	75	104
PLUG	.5	.5	.5	1.1	1.2	1.2	1.5	1.5	2.0	2.3	3.1
RECEPTACLE	.4	.4	.4	.8	.9	.9	1.1	1.1	1.5	1.7	2.2

3 TYPES OF GUIDE SOCKETS AVAILABLE

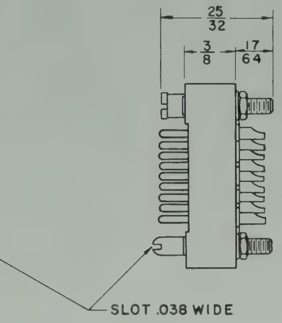
Guide Socket Code Letter	Application	Actual Size Photo	
G	The "G" type socket is the standard guide supplied. It has good physical strength and may be used elecrically in a low current circuit or as a contact for ground leads.	 G Type For General Use Phosphor Bronze	 Standard Guide Pin mates with all types Brass
K	The "K" guide socket is an excellent electrical conductor. Its extra spring-tension provides a high normal force uniformly distributed along the surface of the engaged pilot guide, thus minimizing electrical resistance. The millivolt drop across extreme ends of the engaged pilot and socket guide is 10 mv. at 20 amps.	 K Type For High Electrical Conductivity Beryllium Copper	
N	The high physical strength of the "N" guide socket allows a greater degree of forcible tightening against a mounting surface than is permitted by the other guide sockets. This feature is particularly desirable for mounting connectors which will be subject to severe vibration in service. "N" guides are not to be used electrically.	 N Type For Extra Mechanical Strength Brass	

General Outline Drawings

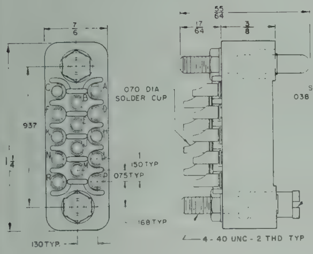
Dimensions are for reference only and are subject to change. Outline drawings on request.



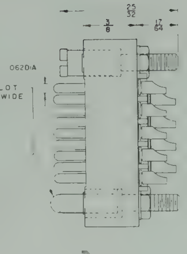
Receptacle
MRA 9S-G



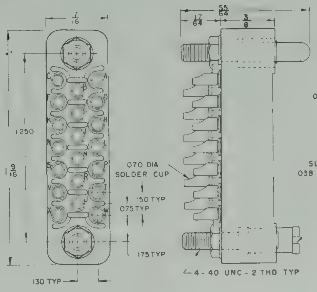
Plug
MRA 9P-G



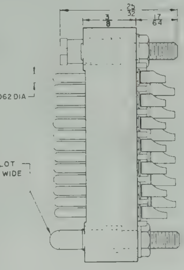
Receptacle
MRA 14S-G



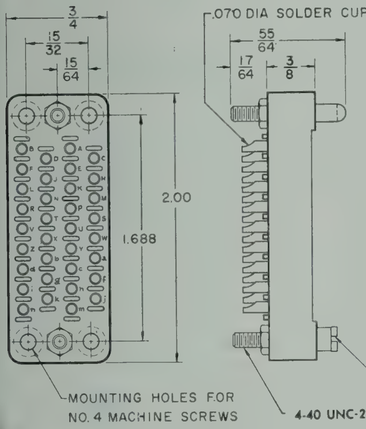
Plug
MRA 14P-G



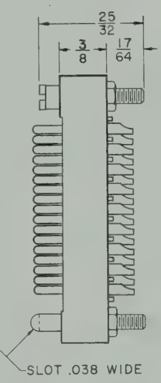
Receptacle
MRA 20S-G



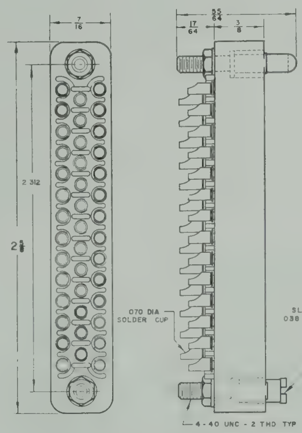
Plug
MRA 20P-G



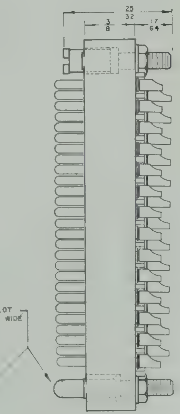
Receptacle
MRA 34S-G



Plug
MRA 34P-G



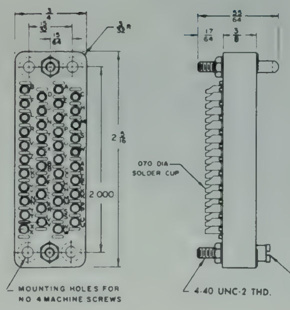
Receptacle
MRA 41S-G



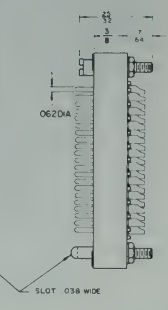
Plug
MRA 41P-G

General Outline Drawings

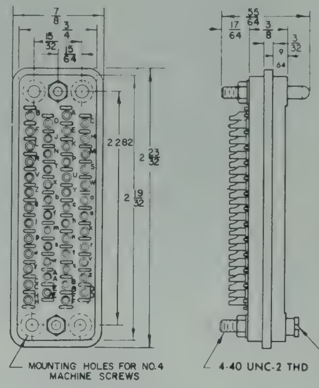
Dimensions are for reference only and are subject to change. Outline drawings on request.



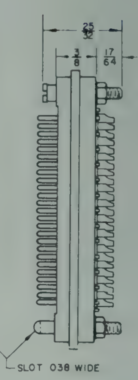
Receptacle
MRA 42S-G



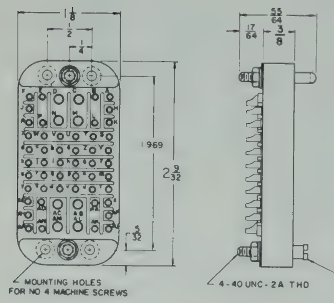
Plug
MRA 42P-G



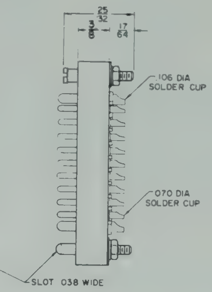
Receptacle
MRA 50S-G



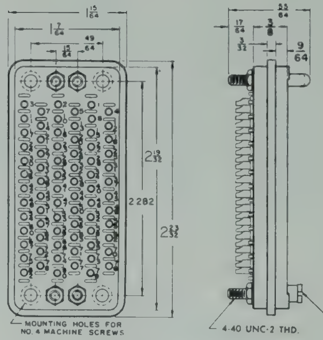
Plug
MRA 50P-G



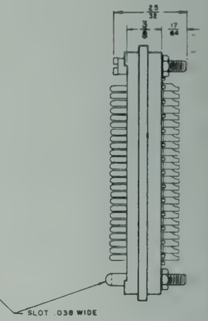
MRA 50-8S-G



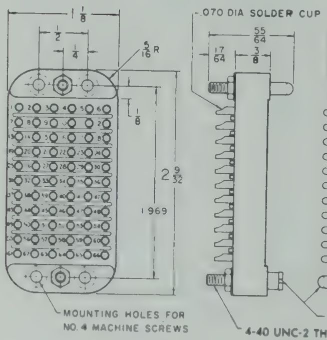
MRA 50-8P-G



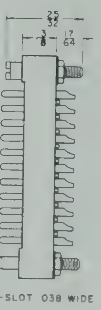
Receptacle
MRA 75S-G



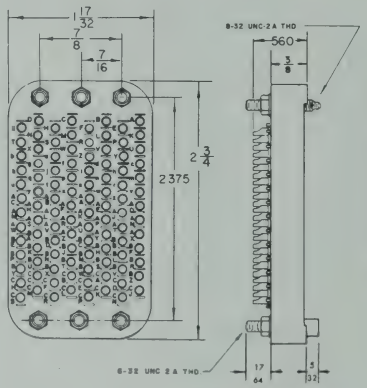
Plug
MRA 75P-G



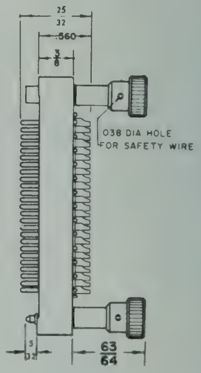
Receptacle
MRA 66S-G



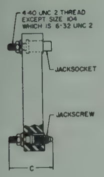
Plug
MRA 66P-G



Receptacle
MRA 104S-J

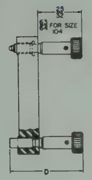


Plug
MRA 104P-JT



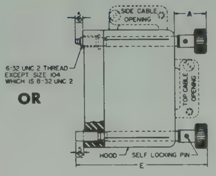
Connector with
fixed Jackscrews
Code designation: J

AND



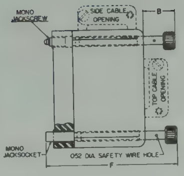
Mating connector
half with turnable
Jackscrews-with-Knobs
Code designation: JT

OR



Mating connector half with
Hood and turnable Long
Jackscrews-with-Knobs. Code
designation: JTCH, JTC H1

OR



Mating conector half with
Hood and turnable Mono-
jacks. Code designation:
designation: JTDH, JTDH1

CONNECTOR SIZE	DIMENSION A				DIMENSION B				DIMEN C	DIMEN D	DIMENSION E				DIMENSION F			
	H	H1	H8	H9	H	H1	H8	H9			H	H1	H8	H9	H	H1	H8	H9
MRA 9		19/32	37/64	19/32					51/64	1 5/16		2 13/32	2 3/32	2 13/32				
MRA 14		19/32	37/64	19/32					51/64	1 5/16		2 13/32	1 27/32	2 13/32				
MRA 20		19/32	37/64	19/32					51/64	1 5/16		2 13/32	1 27/32	2 13/32				
MRA 34	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRA 41	5/8	5/8							51/64	1 5/16	2 13/32	2 13/32						
MRA 42	37/64	37/64	37/64	37/64	37/64	37/64	37/64	37/64	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRA 50	37/64	37/64	37/64	37/64	37/64	37/64	37/64	37/64	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRA 50-8	49/64			45/64	1/2			1/2	51/64	1 5/16	2 15/32			2 13/32	2 3/16			2 3/16
MRA 66	49/64			45/64	1/2			1/2	51/64	1 5/16	2 15/32			2 13/32	2 3/16			2 3/16
MRA 75	9/16	9/16	9/16	9/16	9/16	9/16	9/16	9/16	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRA 104	43/64			43/64	1/2			1/2	51/64	1 33/64	3 27/64			3 27/64	3 1/4			3 1/4

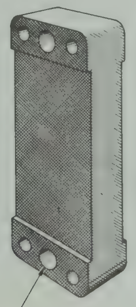
Jackscrew Locking For Series MRA Connectors

Polarized jackscrews give the ease and assurance of threaded positive coupling. The actuating side consists of two turnable screws, one male and one female, each with knurled and slotted knobs. On the mating half are the two fixed screws required to complete the locking action. When mated, the jackscrews may be locked with a safety wire through the hole in the self-locking pin (in the jackscrew shaft).

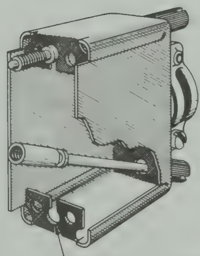
The drawings show the extension of the jackscrew knobs beyond a typical MRA connector and beyond the connector-and-hood assembly (center drawings). Dimensions given are constant for all connectors except as noted. Other dimensions applicable to various hood styles are detailed in the chart.

NEW MONOJACKS ASSEMBLE, DISASSEMBLE WITH REMARKABLE EASE AND SPEED

To free the connector from the hood, simply remove four screws. Monojacks may be used on miniature rectangular connectors with from 34 to 104 contacts, molds have 2 center thru holes and 4 mounting holes.

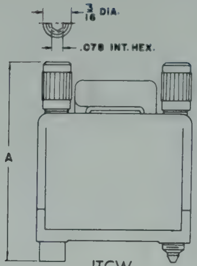


MOLDINGS HAVE STRAIGHT THRU HOLES

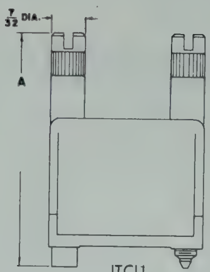


MONOJACKS ARE CAPTIVATED IN KEYHOLE SLOT OF HOOD AS SHOWN ABOVE.
WHEN USING SHELLS, MONOJACKS ARE CAPTIVATED IN KEYHOLE OF SHELL AND CLEARANCE HOLES ARE PLACED IN HOODS.

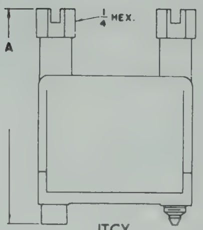
Jackscrew Locking For Series MRA Connectors



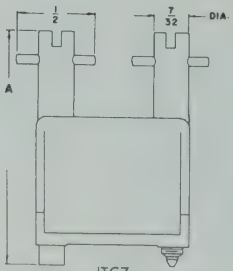
JTCW



JTCU



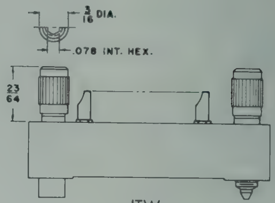
JTCX



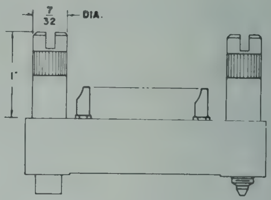
JTCZ

Size	HOOD			
	H	H1	H8	H9
DIMENSION A—TYPE JTCW				
9	–	2 7/32	1 29/32	2 7/32
14	–	2 7/32	1 21/32	2 7/32
20	–	2 7/32	1 21/32	2 7/32
34	2 7/32	2 7/32	2 7/32	2 7/32
41	2 7/32	2 7/32	–	–
42	2 7/32	2 7/32	2 7/32	2 7/32
50	2 7/32	2 7/32	2 7/32	2 7/32
50-8	2 7/32	–	–	2 7/32
66	2 7/32	–	–	2 7/32
75	2 7/32	2 7/32	2 7/32	2 7/32
DIMENSION A—TYPE JTCU				
9	–	2 15/32	2 5/32	2 15/32
14	–	2 15/32	1 29/32	2 15/32
20	–	2 15/32	1 29/32	2 15/32
34	2 15/32	2 15/32	2 15/32	2 15/32
41	2 15/32	2 15/32	–	–
42	2 15/32	2 15/32	2 15/32	2 15/32
50	2 15/32	2 15/32	2 15/32	2 15/32
50-8	2 15/32	–	–	2 15/32
66	2 15/32	–	–	2 15/32
75	2 15/32	2 15/32	2 15/32	2 15/32
DIMENSION A—TYPE JTCX				
9	–	2 11/32	2 1/32	2 11/32
14	–	2 11/32	1 25/32	2 11/32
20	–	2 11/32	1 25/32	2 11/32
34	2 11/32	2 11/32	2 11/32	2 11/32
41	2 11/32	2 11/32	–	–
42	2 11/32	2 11/32	2 11/32	2 11/32
50	2 11/32	2 11/32	2 11/32	2 11/32
50-8	2 11/32	–	–	2 11/32
66	2 11/32	–	–	2 11/32
75	2 11/32	2 11/32	2 11/32	2 11/32
DIMENSION A—TYPE JTCZ				
9	–	2 15/32	2 5/32	2 15/32
14	–	2 15/32	1 29/32	2 15/32
20	–	2 15/32	1 29/32	2 15/32
34	2 15/32	2 15/32	2 15/32	2 15/32
41	2 15/32	2 15/32	–	–
42	2 15/32	2 15/32	2 15/32	2 15/32
50	2 15/32	2 15/32	2 15/32	2 15/32
50-8	2 15/32	–	–	2 15/32
66	2 15/32	–	–	2 15/32
75	2 15/32	2 15/32	2 15/32	2 15/32

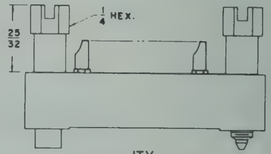
All jackscrews and sockets are stainless steel, passivated. All knobs are aluminum, anodized except JTW and JTCW which are stainless steel, passivated.



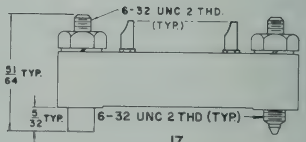
JTW



JTU



JTX



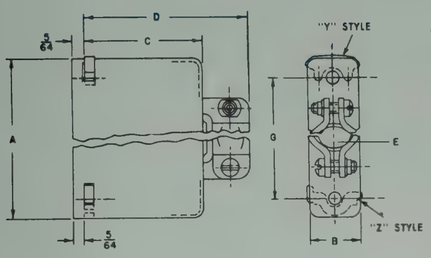
JZ

Min. Rect. #16 Cts. .062" Dia. 13 Amps

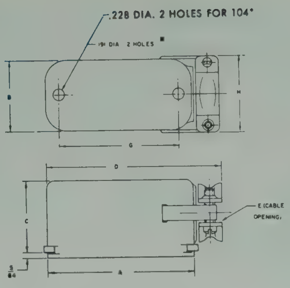
Series MRA

Drawn Aluminum Hoods

Dimensions are for reference only and are subject to change.



Top Cable Opening



Side Cable Opening

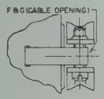
*When used with long turning Jackscrews.

Catalog No.	DIMENSIONS - TOP OPENING							Wt. Oz.	Fits Connector	Style
	A	B	C	D	E	F	G			
MRA 34H-491	2 3/32	27/32	1 11/64	1 19/32	21/32X3/4		1.688	.6	MRA 34P MRA 34S	"Z"
MRA 50-8H	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D		1.969	.8	MRA 50-8P MRA 50-8S	"Y"
MRA 66H	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D		1.969	.8	MRA 66P MRA 66S	"Y"
MRA 104H	2 27/32	1 5/8	2 15/64	2 3/4	1 3/16D		2.375	1.0	MRA 104P MRA 104S	"Y"

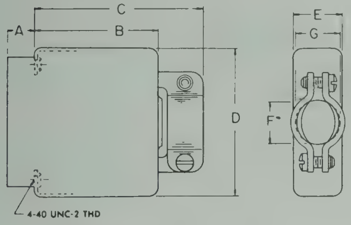
Catalog No.	DIMENSIONS - SIDE OPENING							Wt. Oz.	Fits Connector	Style
	A	B	C	D	E	H	G			
MRA 34H9-491	2 3/32	27/32	1 11/64	2 19/32	41/64X3/4	1 1/16	1.688	.6	MRA 34P MRA 34S	"Z"
MRA 50-8H9	2 3/8	1 7/32	1 11/64	2 59/64	27/32D	1 11/32	1.969	.8	MRA 50-8P MRA 50-8S	"Y"
MRA 66H9	2 3/8	1 7/32	1 11/64	2 59/64	27/32D	1 11/32	1.969	.8	MRA 66P MRA 66S	"Y"
MRA 104H9	2 27/32	1 5/8	2 15/64	3 25/64	1 3/16D	1 5/8	2.375	1.0	MRA 104P MRA 104S	"Y"

MRE Series Hoods For Use With MRA Series Connectors

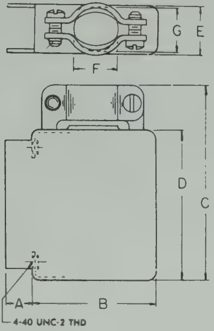
Formed Aluminum Hoods

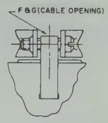


H-8 Hoods are identical
to H Hood except for cable
clamp style and cable
opening in the hood.



H and H-8 Cable Clamps





H-9 Hood is identical to
H-1 Hood except for cable
clamp style and cable
opening in the hood.

H-9 Cable Clamp

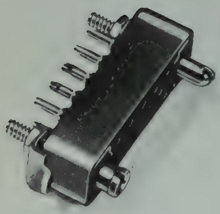
TOP CABLE OPENING

Code No.	Dimensions					Cable Opening		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE 9H*	9/32	1"	1 5/16	1 5/16	7/16	5/16D	...	.3	MRA 9 (P OR S)
MRE 9H-8	9/32	1"	1 19/64	1 5/16	7/16	5/16	19/32	.3	MRA 9 (P OR S)
MRE 14H*	9/32	3/4	1 3/16	1 1/4	1/2	7/16D	...	.3	MRA 14 (P OR S)
MRE 14H-8	9/32	3/4	1 3/64	1 1/4	1/2	3/8	19/32	.3	MRA 14 (P OR S)
MRE 20H*	1/4	3/4	1 3/16	1 9/16	1/2	7/16D	...	.3	MRA 20 (P OR S)
MRE 20H-8	1/4	3/4	1 3/64	1 9/16	1/2	3/8	21/32	.3	MRA 20 (P OR S)
MRE 34H	9/32	1 1/4	1 11/16	2"	53/64	21/32D	...	.6	MRA 34 (P OR S)
MRE 34H-8	9/32	1 1/4	1 3/4	2"	54/64	1 1/16	9/16	.6	MRA 34 (P OR S)
MRE 41H	9/32	1 1/4	1 11/16	2 5/8	1/2	21/32	7/16	.6	MRA 41 (P OR S)
MRE 42H	3/32	1 19/64	1 23/32	2 5/16	53/64	5/8D	...	.7	MRA 42 (P OR S)
MRE 42H-8	3/32	1 19/64	1 51/64	2 5/16	53/64	1 1/16	9/16	.7	MRA 42 (P OR S)
MRE 50H	3/32	1 19/64	1 23/32	2 19/32	53/64	5/8D		.8	MRA 50 (P OR S)
MRE 50H-8	3/32	1 19/64	1 51/64	2 19/32	53/64	1 1/16	9/16	.8	MRA 50 (P OR S)
MRE 75H	3/32	1 5/16	1 47/64	2 19/32	1 3/16	5/8	7/8	1.0	MRA 75 (P OR S)
MRE 75H-8	3/32	1 5/16	1 55/64	2 19/32	1 3/16	1	7/8D	1.0	MRA 75 (P OR S)

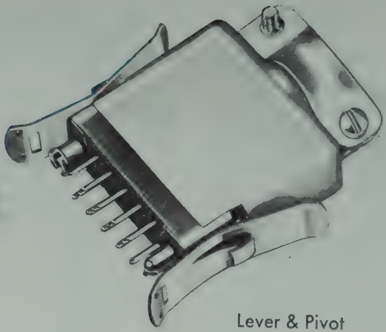
*H Hoods for MRA 9,14 and 20 will not accept JTC hardware. Use H8 hoods.

SIDE CABLE OPENING

Code No.	Dimensions					Cable Opening		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE 9H-1	9/32	1 9/32	1 5/8	1 5/16	7/16	5/16D	...	.3	MRA 9 (P OR S)
MRE 9H-9	9/32	1 9/32	1 39/64	1 5/16	7/16	19/32	5/16	.3	MRA 9 (P OR S)
MRE 14H-1	9/32	1 9/32	1 11/16	1 1/4	1/2	3/8D	...	.3	MRA 14 (P OR S)
MRE 14H-9	9/32	1 9/32	1 35/64	1 1/4	1/2	19/32	3/8	.3	MRA 14 (P OR S)
MRE 20H-1	9/32	1 9/32	2"	1 9/16	1/2	3/8D	...	.3	MRA 20 (P OR S)
MRE 20H-9	9/32	1 9/32	1 55/64	1 9/16	1/2	21/32	3/8	.3	MRA 20 (P OR S)
MRE 34H-1	9/32	1 1/4	2 27/64	2"	53/64	21/32D	...	.6	MRA 34 (P OR S)
MRE 34H-9	9/32	1 1/4	...	2"	54/64	13/16	9/16	.6	MRA 34 (P OR S)
MRE 41H-1	9/32	1 1/4	3 1/16	2 5/8	1/2	21/32	7/16	.6	MRA 41 (P OR S)
MRE 42H-1	3/32	1 19/64	2 47/64	2 5/16	53/64	5/8	1/2	.7	MRA 42 (P OR S)
MRE 42H-9	3/32	1 19/64	...	2 5/16	53/64	27/32	9/16	.7	MRA 42 (P OR S)
MRE 50H-1	3/32	1 19/64	3 1/64	2 19/32	53/64	5/8	1/2	.8	MRA 50 (P OR S)
MRE 50H-9	3/32	1 19/64	...	2 19/32	53/64	1 1/16	9/16	.8	MRA 50 (P OR S)
MRE 75H-1	3/32	1 5/16	3 1/64	2 19/32	1 3/16	5/8	7/8	1.0	MRA 75 (P OR S)
MRE 75H-9	3/32	1 5/16	...	2 19/32	1 3/16	1	7/8	1.0	MRA 75 (P OR S)



Lock Tabs
(MRA-V shown)



Lever & Pivot
Assemblies
(MRA-VL shown)

Vibration Locks*

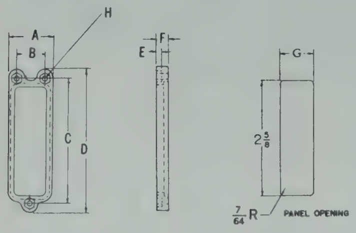
Vibration locks offer simplicity of design and positive locking in excess of 50G shock impact and 10G vibration acceleration. Mating halves automatically lock when engaged. To unlock, depress the levers. Drilled holes in the levers are provided for safety wiring. Vibration locks are available separately for assembly on connectors now in service. Each code number indicates two units: two levers with two pivots, and two lock tabs.

*U.S. Patent Number 2760174

Lever & Pivot Assembly	Lock Tabs (See Note)	Used on Connectors
MRA-VL	MRA-V	MRA 9, 14, 20, 34, 41, 42, 66
MRA-VL2	MRA-V2	MRA 50, 75

Note: When panel mounting the lock-tab half of a MRA 34, MRA 42 or MRA 50 and MRA 66 connector, flat washers (.033 minimum thickness) should be used on the mounting screws to shim the molding away from the panel.

MOUNTING BRACKETS



MRA 50 and MRA 75 connectors use the standard MRE 50 and MRE 75 mounting brackets

Code No.	DIMENSIONS								
	A	B	C	D	E	F	G	H	Wgt.
MRE 50B	1 1/16	.688	3.031	3 7/16	1/8	9/32	23/32	.128 DIA 3 HOLES (NO. 4 MOUNTING SCREW)	.4 OZ.
MRE 75B	1 31/64	1.047	3.062	3 9/16	9/64	19/64	1 9/64	.150 DIA. 3 HOLES (NO. 6 MOUNTING SCREW)	.6 OZ.

Potting Form Code No.	Fig.	Dimensions	
		A	B
MRA 9 FM	III	.77	.43
MRA 14 FM	II	.93	.49
MRA 20 FM	II	1.12	.49
MRA 26 FM	II	1.18	.61
MRA 34 FM	I	1.38	.80
MRA 41 FM	II	2.18	.49
MRA 42 FM	I	1.69	.80
MRA 50 FM	I	1.97	.80
MRA 75 FM	I	1.98	1.16

PRE-SHAPED NYLON POTTING FORMS

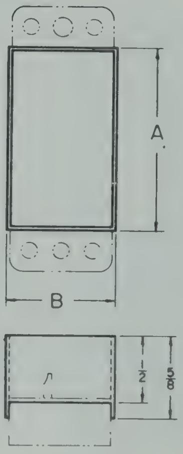


Figure I

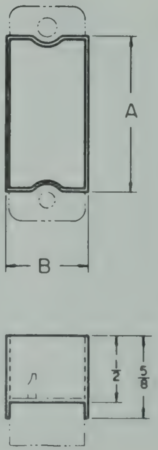


Figure II

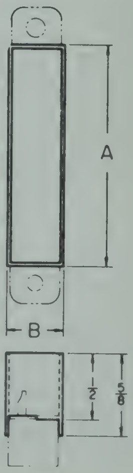


Figure III

Each form matches the back opening contour of its appropriate shell, and stays easily in place during the potting operation. Of negligible weight, it need not be removed from the connector after potting. Because of floating contacts, connector halves should always be engaged during the potting operation to preserve contact alignment.

Ordering Information - Code Numbering System

Specify complete plug or receptacle by following Steps 1 through 9
Omit steps not required

Step	1	2	3	4	5	6	7	8	9
	MRA	34	S		G	H	VL		

Step 1
Insert Code Series

Step 2
Number of Contacts
9,14,20,34,41,42,50,
50-8,66,75,104

Step 3
Contact Designation
P - Pin S - Socket

P8 } For thru hole for monojacks -
S8 } Sizes 34, 42, 50, 66, 75, 104

Step 4
Type of Contact
This step to be used only when a special material, finish, or style is required. Omit when standard contacts are used. Consult Sales Department for proper designation of Dip Solder Contacts.

Step 5
Guides and Jackscrew Locks

Step 6
Hoods
H - Standard Top Opening*
H1 - Standard Side Opening
H8 - Large top Opening
H9 - Large Side Opening
See Hood Section for Availability
(Note: H Hoods for MRA 9, 14 and 20 will not accept JTC hardware. Use H8 hoods.)

Step 7
Vibration Locks
V - Lock Tab
V2 - Lock Tab (Size 50 & 75)
VL - Lever & Pivot Ass'y
VL2 - Lever & Pivot Ass'y (Size 50 & 75)

Step 8
Accessories
FM - Potting Forms
Cannot be Used with Hoods

Step 9
Special Options
Consult Sales Department

Guides

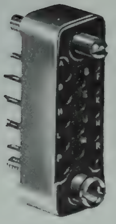
G	Phosphor Bronze Cylindrical Guides
K	Beryllium Copper Cylindrical Guides
N	Brass Cylindrical Guides

Guides are not recommended for Size 104
"P" indicates two guide pins or two jackscrews (Ex. JTCP)
"S" indicates two guide sockets or two jacksockets. (Ex. GS)

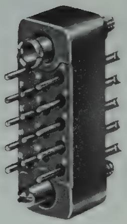
Jackscrew Locks

J —	Polarized Fixed Jackscrew and Jacksocket
JT—	Polarized Short Turning Jackscrew and Jacksocket
JTC —	Polarized Long Turning Jackscrew and Jacksocket
JTD —	Polarized Long Turning Mono-Jackscrew and Mono-Jacksocket for Sizes 34, 42, 50, 66, 75, and 104 only.
JZ—	Same as J but with 6-32 mtg. thd. (Std. on 104)
JTW—	Sames as JT but with knurled round knob with internal hex (not avail. 104)
JTU —	Same as JT but with knurled round knob with screwdriver slot (not avail. 104)
JTX —	Same as JT but with hex knob (not avail. 104)
JTCW —	Same as JTC but with knurled round knob with internal hex (not avail. 104)
JTCU —	Same as JTC but with knurled round knob with screwdriver slot (not avail. (104)
JTCX —	Same as JTC but with hex knob (not avail. 104)
JTCZ —	Same as JTC but with prybar knob (not avail. 104)

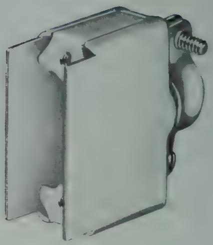
Mounting Note: Connectors MRA 9, MRA 41, MRA 20 and smaller use guides for mounting in a hood or on a panel. Connectors MRA 34, MRA 42, MRA 50, MRA 66, MRA 75 use four #4 machine screws, and MRA 104 uses four #6 machine screws for mounting in a hood or on a panel. Guides are not recommended for use with MRA 104.



Receptacle
MRE 14S-G



Plug
MRE 14P-G



Hood
MRE 14H

MRE Series plugs and receptacles are the accepted standard for rectangular-shaped, miniature, internal-type connectors. They embody all of the features expected of true miniaturization: maximum utility of space, extreme lightweight and unusually high working voltage and current ratings. Their long life and trouble free service continue to make them highly popular for use in aircraft, instrumentation and portable equipment.

Specifications

Current Rating: 7.5 Amps

No. of Contacts: 7, 5-3, 8, 7-2, 9, 11, 14, 18, 20, 21, 26, 34, 41, 42, 50, 75, 104

Pin Contacts: .040 dia., gold plated brass

Socket Contacts: Spring temper phosphor bronze plated gold.

Termination Types: .048 dia. solder cup is standard. It will accept up to #20 AWG stranded wire. Pin and Socket Contacts available with dip solder terminations, .025 Dia. Check Sales Dept. for lengths available.

Electrical Data: Meets high potential performance requirements of MIL-C-28748.

Military versions are QPL'd to M28748/5 and M28748/6. The dielectric withstanding voltage is one minute at 1200 volts.

Dielectric: Brown mineral filled diallyl phthalate. Also available in gray glass filled diallyl phthalate.

Qualification: Military version meets all requirements of MIL-C-28748.

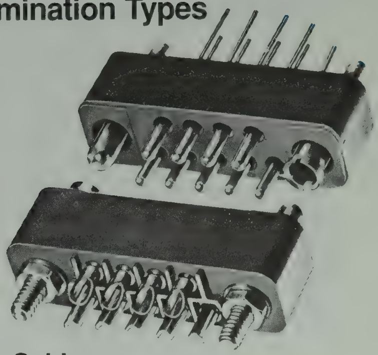
Polarization: Gold plated guides are furnished for positive polarization. Polarized jackscrews of passivated stainless steel with anodized aluminum knobs are available.

Hoods: Anodized aluminum. May be applied to either plug or receptacle. Both top and side openings are available.

PHYSICAL DATA

Total No. of Contacts	Plug	Recept.	No. Standard Contacts, 7.5 Amps (.048 dia. solder cup for #20 AWG)	No. Special Contacts, 10 Amps (.052 dia. solder cup for #18 AWG)	Weight Oz.	
	Winchester Electronics Code No.	Winchester Electronics Code No.			Plug	Rec.
7	MRE 7P-G	MRE 7S-G	7	none	.3	.3
8	MRE 5-3P-N	MRE 5-3S-N	5	3	.2	.2
8	MRE 8P-N	MRE 8S-N	8	none	.2	.2
9	MRE 7-2P-G	MRE 72S-G	7	2	.3	.3
9	MRE 9P-G	MRE 9S-G	9	none	.3	.3
11	MRE 11 P-G	MRE 11S-G	11	none	.3	.3
14	MRE 12-2P-G	MRE 12-2S-G	12	2	.5	.5
14	MRE 14P-G	MRE14S-G	14	none	.3	.3
18	MRE 18P-G	MRE 18S-G	18	none	.4	.4
20	MRE 20P-G	MRE 20S-G	20	none	.5	.4
21	MRE 21P-G	MRE 21S-G	21	none	.5	.5
26	MRE 26P-G	MRE 26S-G	26	none	.6	.5
34	MRE 34P-G	MRE 34S-G	34	none	.8	.7
41	MRE 41P-G	MRE 41S-G	41	none	.8	.6
42	MRE 42P-G	MRE 42S-G	42	none	.9	.8
50	MRE 50P-G	MRE 50S-G	50	none	1.0	.9
75	MRE 75 P-G	MRE 75S-G	75	none	1.5	1.3
104	MRE 104P-JT	MRE 104S-J	104	none	3.3	2.2

Termination Types



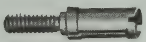
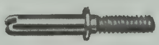
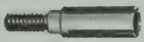
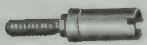
Dip Solder:

For mounting on printed circuit boards .025 diameter dip solder terminations (for Pin Contacts and Socket Contacts) are available. Consult the Sales Department for available lengths.

Solder Cup:

.048 diameter solder cup is the standard termination for cable and panel mounting applications. It will accept up to #20 AWG stranded wire.

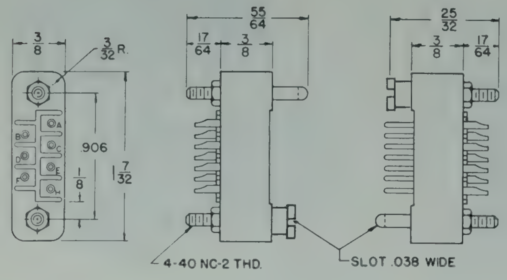
3 TYPES OF GUIDE SOCKETS AVAILABLE

Guide Socket Code Letter	Application	Actual Size Photo	
G	The "G" type socket is the standard guide supplied. It has good physical strength and may be used elecrically in a low current circuit or as a contact for ground leads.	 G Type For General Use Phosphor Bronze	 Standard Guide Pin mates with all types Brass
K	The "K" guide socket is an excellent electrical conductor. Its extra spring-tension provides a high normal force uniformly distributed along the surface of the engaged pilot guide, thus minimizing electrical resistance. The millivolt drop across extreme ends of the engaged pilot and socket guide is 10 mv. at 20 amps.	 K Type For High Electrical Conductivity Beryllium Copper	
N	The high physical strength of the "N" guide socket allows a greater degree of forcible tightening against a mounting surface than is permitted by the other guide sockets. This feature is particularly desirable for mounting connectors which will be subject to severe vibration in service. "N" guides are not to be used electrically.	 N Type For Extra Mechanical Strength Brass	

HOW TO ORDER: To obtain "K" or "N" guides in place of the standard "G" type, substitute the desired socket style code letter ("K" or "N") for "G" in both the Plug and Receptacle Code Numbers. (See Code Numbers in table at top of page.)

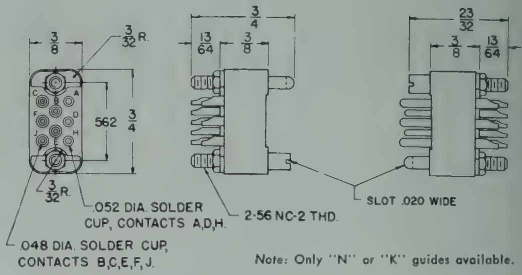
General Outline Drawings

Dimensions are for reference only and are subject to change. Outline drawings on request.



Receptacle
MRE 7S-G

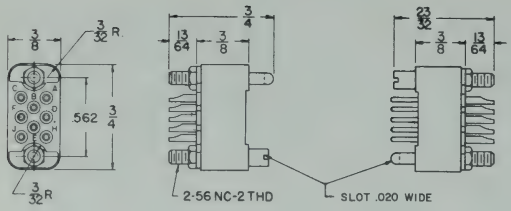
Plug
MRE 7P-G



Note: Only "N" or "K" guides available.

Receptacle
MRE 5-3S-N

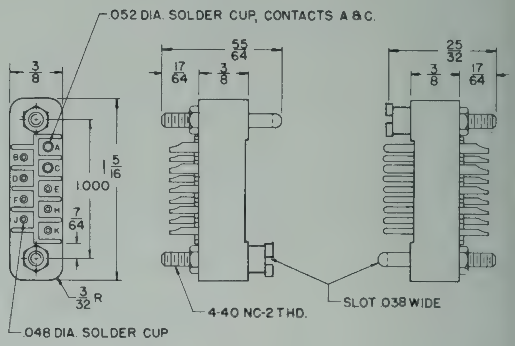
Plug
MRE 5-3P-N



Note: Only "N" or "K" guides available.

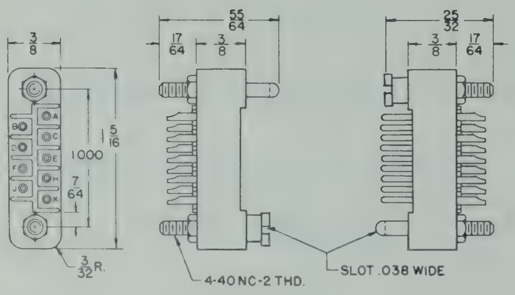
Receptacle
MRE 8S-N

Plug
MRE 8P-N



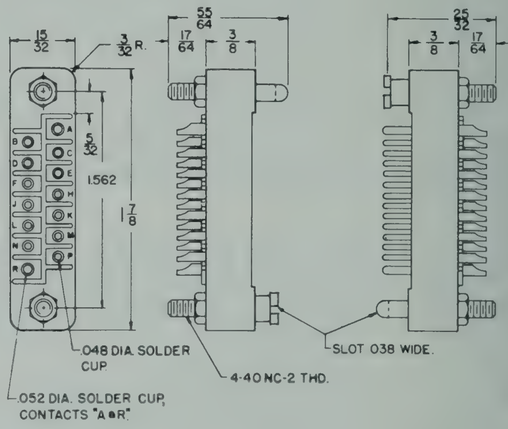
Receptacle
MRE 7-2S-G

Plug
MRE 7-2P-G



Receptacle
MRE 9S-G

Plug
MRE 9P-G

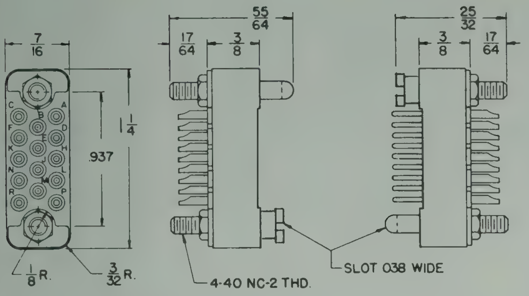


Receptacle
MRE 12-2S-G

Plug
MRE 12-2P-G

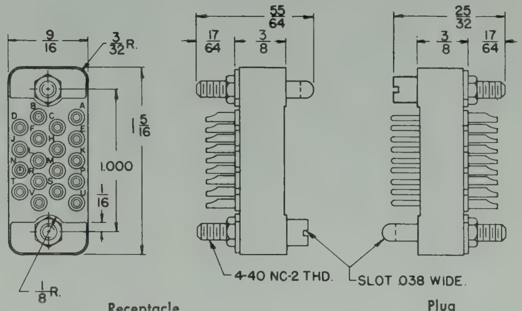
General Outline Drawings

Dimensions are for reference only and are subject to change. Outline drawings on request.



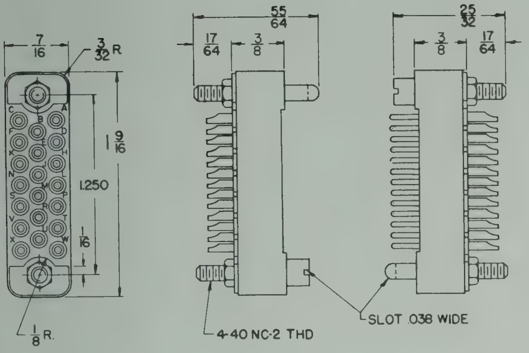
Receptacle
MRE 14S-G

Plug
MRE 14P-G



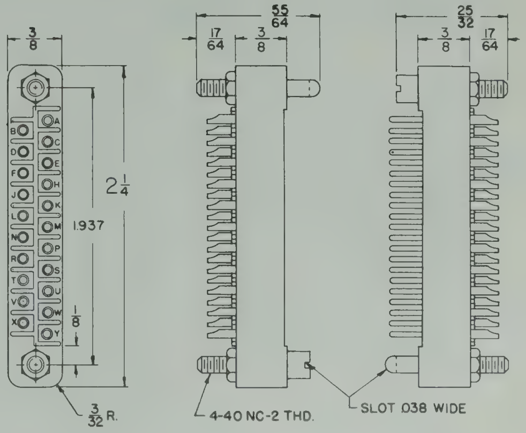
Receptacle
MRE 18S-G

Plug
MRE 18P-G



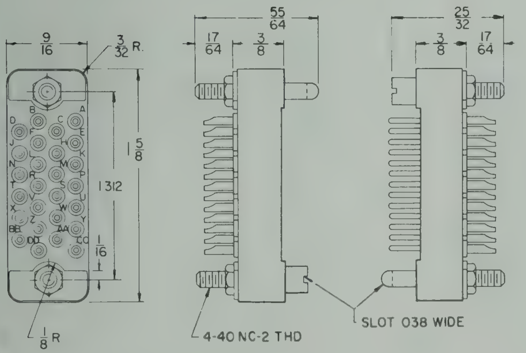
Receptacle
MRE 20S-G

Plug
MRE 20P-G



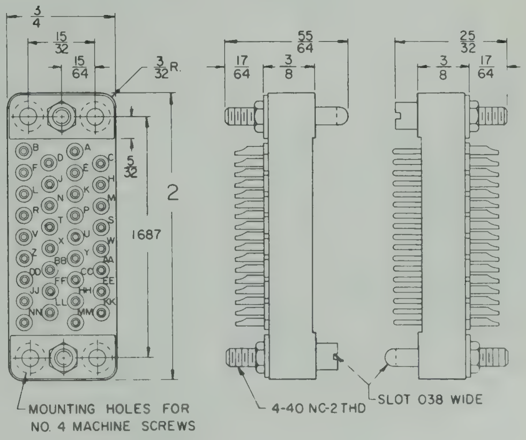
Receptacle
MRE 21S-G

Plug
MRE 21P-G



Receptacle
MRE 26S-G

Plug
MRE 26P-G

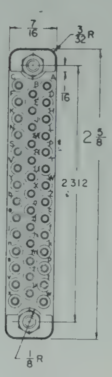


Receptacle
MRE 34S-G

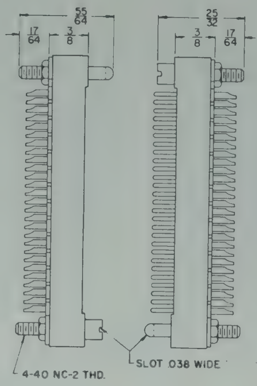
Plug
MRE 34P-G

General Outline Drawings

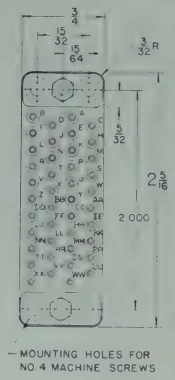
Dimensions are for reference only and are subject to change. Outline drawings on request.



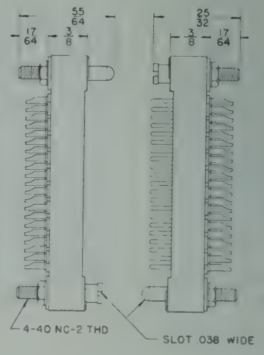
Receptacle
MRE 41S-G



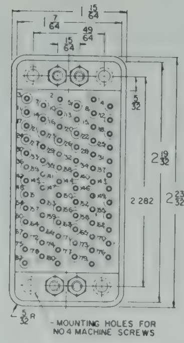
Plug
MRE 41P-G



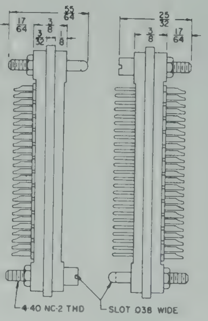
Receptacle
MRE 42S-G



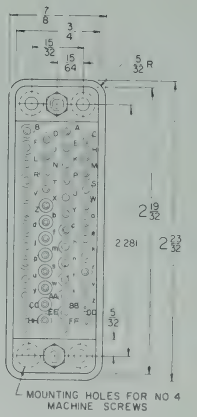
Plug
MRE 42P-G



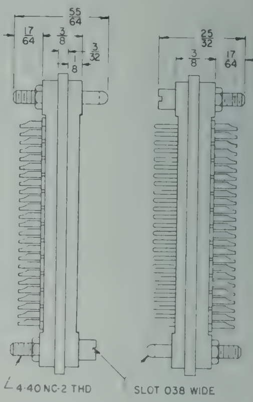
Receptacle
MRE 75S-G



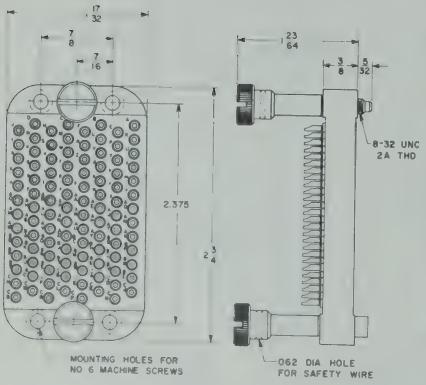
Plug
MRE 75P-G



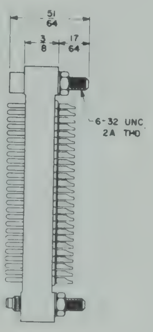
Receptacle
MRE 50S-G



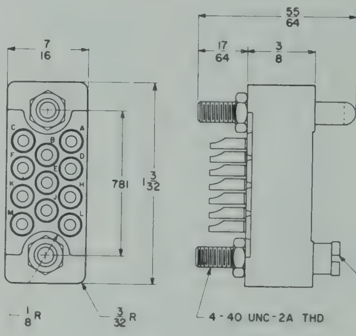
Plug
MRE 50P-G


1 17/32
7/8
7/16
2.375
2 3/4
MOUNTING HOLES FOR NO. 6 MACHINE SCREWS
1 23/64
3/8
5/32
8-32 UNC 2A THD
.062 DIA HOLE FOR SAFETY WIRE

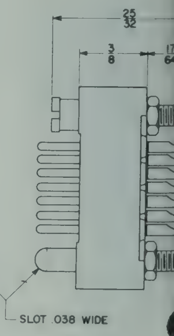
Receptacle
MRE 104S-JT



Plug
MRE 104P-J



Receptacle
MRE 11S-G

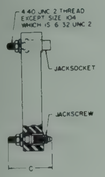


Plug
MRE 11P-G

Jackscrew Locking For Series MRE Connectors

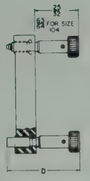
Polarized jackscrews give the ease and assurance of threaded positive coupling. The actuating side consists of two turnable screws, one male and one female, each with knurled and slotted knobs. On the mating half are the two fixed screws required to complete the locking action. When mated, the jackscrews may be locked with a safety wire through the hole in the self-locking pin (in the jackscrew shaft).

The drawings show the extension of the jackscrew knobs beyond a typical MRA connector and beyond the connector-and-hood assembly (center drawings). Dimensions given are constant for all connectors except as noted. Other dimensions applicable to various hood styles are detailed in the chart.



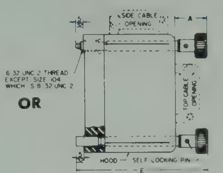
Connector with fixed Jackscrews Code designation: J

AND



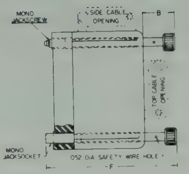
Mating connector half with turnable Jackscrews-with-Knobs Code designation: JT

OR



Mating connector half with Hood and turnable Long Jackscrews-with-Knobs. Code designation: JTCH, JTCH1

OR

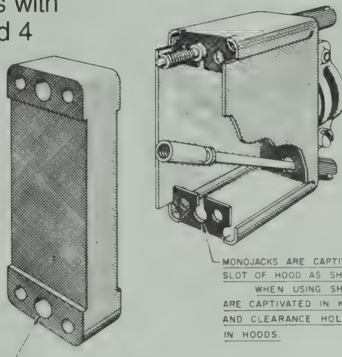


Mating conector half with Hood and turnable Monojacks. Code designation: JTDH, JTDHI

CONNECTOR SIZE	DIMENSION A				DIMENSION B				DIMEN. C	DIMEN. D	DIMENSION E				DIMENSION F			
	H	H1	H8	H9	H	H1	H8	H9			H	H1	H8	H9	H	H1	H8	H9
MRE 7		37/64	37/64						51/64	1 5/16		2 3/32	2 3/32					
MRE 8	...	1/2	1/2	1/2	...	...	...	...	51/64	1 5/16	...	2 1/64	2 1/64	2 1/64	...	...	...	...
MRE 9	...	19/32	37/64	19/32	...	...	...	...	51/64	1 5/16	...	2 13/32	2 3/32	2 13/32	...	...	...	...
MRE 12-2	19/32	19/32	...	...	...	...	...	...	51/64	1 5/16	2 13/32	2 13/32	...	...	...	...	...	...
MRE 14	...	19/32	37/64	19/32	...	...	...	...	51/64	1 5/16	...	2 13/32	1 27/32	2 13/32	...	...	...	...
MRE 18	...	19/32	53/64	19/32	...	...	...	...	51/64	1 5/16	...	2 13/32	2 3/32	2 13/32	...	...	...	...
MRE 20	...	19/32	37/64	19/32	...	...	...	...	51/64	1 5/16	...	2 13/32	1 27/32	2 13/32	...	...	...	...
MRE 21	43/64	19/32	43/64	19/32	...	...	...	...	51/64	1 5/16	2 3/32	2 13/32	2 3/32	2 13/32	...	...	...	...
MRE 26	13/16	19/32	19/32	19/32	...	...	...	...	51/64	1 5/16	2 39/64	2 13/32	2 13/32	2 13/32	...	...	...	...
MRE 34	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRE 41	5/8	5/8	...	...	...	...	...	...	51/64	1 5/16	2 13/32	2 13/32	...	...	...	...	...	...
MRE 42	37/64	37/64	37/64	37/64	37/64	37/64	37/64	37/64	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRE 50	37/64	37/64	37/64	37/64	37/64	37/64	37/64	37/64	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRE 75	9/16	9/16	9/16	9/16	9/16	9/16	9/16	9/16	51/64	1 5/16	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32	2 13/32
MRE 104	43/64	...	...	43/64	1/2	...	...	1/2	51/64	1 33/64	3 27/64	...	...	3 27/64	3 1/4	...	...	3 1/4

NEW MONOJACKS ASSEMBLE, DISASSEMBLE WITH REMARKABLE EASE AND SPEED

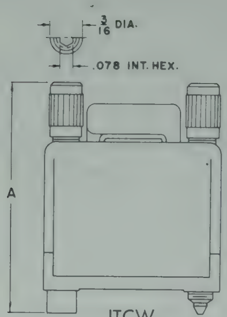
To free the connector from the hood, simply remove four screws. Monojacks may be used on miniature rectangular connectors with from 34 to 104 contacts. Molds have 2 center thru holes and 4 mounting holes.



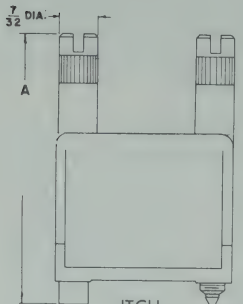
MONOJACKS ARE CAPTIVATED IN KEYHOLE SLOT OF HOOD AS SHOWN ABOVE
WHEN USING SHELLS, MONOJACKS ARE CAPTIVATED IN KEYHOLE OF SHELL AND CLEARANCE HOLES ARE PLACED IN HOODS.

MOLDINGS HAVE STRAIGHT THRU HOLES

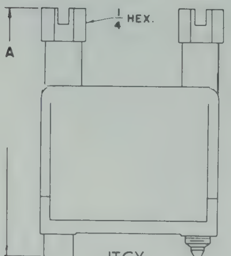
Jackscrew Locking For Series MRE Connectors



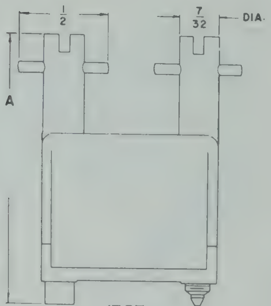
JTCW



JTCU



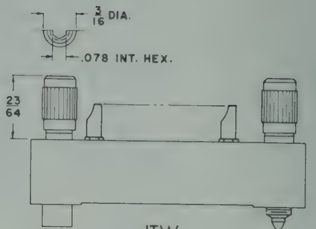
JTCX



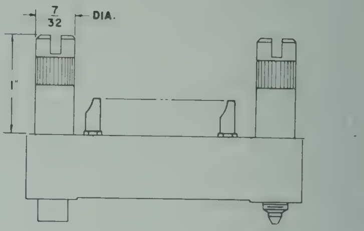
JTCZ

Size	HOOD			
	H	H1	H8	H9
DIMENSION A—TYPE JTCW				
7	–	$1\frac{29}{32}$	$1\frac{29}{32}$	–
9	–	$2\frac{7}{32}$	$1\frac{29}{32}$	$2\frac{7}{32}$
12-2	$2\frac{7}{32}$	$2\frac{7}{32}$	–	–
14	–	$2\frac{7}{32}$	$1\frac{21}{32}$	$2\frac{7}{32}$
18	–	$2\frac{7}{32}$	$1\frac{21}{32}$	$2\frac{7}{32}$
20	–	$2\frac{7}{32}$	$1\frac{21}{32}$	$2\frac{7}{32}$
21	$1\frac{29}{32}$	$2\frac{7}{32}$	$1\frac{29}{32}$	$2\frac{7}{32}$
26	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$
34	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$
41	$2\frac{7}{32}$	$2\frac{7}{32}$	–	–
42	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$
50	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$
75	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$
DIMENSION A—TYPE JTCU				
7	–	$2\frac{5}{32}$	$2\frac{5}{32}$	–
9	–	$2\frac{15}{32}$	$2\frac{5}{32}$	$2\frac{15}{32}$
12-2	$2\frac{15}{32}$	$2\frac{15}{32}$	–	–
14	–	$2\frac{15}{32}$	$1\frac{29}{32}$	$2\frac{15}{32}$
18	–	$2\frac{15}{32}$	$1\frac{29}{32}$	$2\frac{15}{32}$
20	–	$2\frac{15}{32}$	$1\frac{29}{32}$	$2\frac{15}{32}$
21	$2\frac{5}{32}$	$2\frac{15}{32}$	$2\frac{5}{32}$	$2\frac{15}{32}$
26	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
34	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
41	$2\frac{15}{32}$	$2\frac{15}{32}$	–	–
42	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
50	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
75	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
DIMENSION A—TYPE JTCX				
7	–	$2\frac{1}{32}$	$2\frac{1}{32}$	–
9	–	$2\frac{11}{32}$	$2\frac{1}{32}$	$2\frac{11}{32}$
12-2	$2\frac{11}{32}$	$2\frac{11}{32}$	–	–
14	–	$2\frac{11}{32}$	$1\frac{25}{32}$	$2\frac{11}{32}$
18	–	$2\frac{11}{32}$	$2\frac{1}{32}$	$2\frac{11}{32}$
20	–	$2\frac{11}{32}$	$1\frac{25}{32}$	$2\frac{11}{32}$
21	$2\frac{1}{32}$	$2\frac{11}{32}$	$2\frac{1}{32}$	$2\frac{11}{32}$
26	$2\frac{39}{64}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$
34	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$
41	$2\frac{11}{32}$	$2\frac{11}{32}$	–	–
42	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$
50	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$
75	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$
DIMENSION A—TYPE JTCZ				
7	–	$2\frac{5}{32}$	$2\frac{5}{32}$	–
9	–	$2\frac{15}{32}$	$2\frac{5}{32}$	$2\frac{15}{32}$
12-2	$2\frac{15}{32}$	$2\frac{15}{32}$	–	–
14	–	$2\frac{15}{32}$	$1\frac{29}{32}$	$2\frac{15}{32}$
18	–	$2\frac{15}{32}$	$2\frac{5}{32}$	$2\frac{15}{32}$
20	–	$2\frac{15}{32}$	$1\frac{29}{32}$	$2\frac{15}{32}$
21	$2\frac{5}{32}$	$2\frac{15}{32}$	$2\frac{5}{32}$	$2\frac{15}{32}$
26	$2\frac{49}{64}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
34	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
41	$2\frac{15}{32}$	$2\frac{15}{32}$	–	–
42	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
50	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$
75	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$

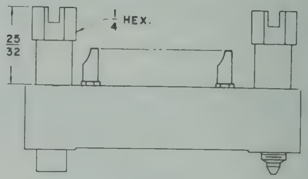
All jackscrews and sockets are stainless steel, passivated. All knobs are aluminum, anodized except JTW and JTCW which are stainless steel, passivated.



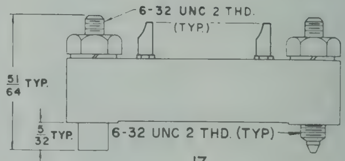
JTW



JTU



JTX

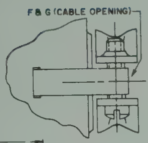


JZ

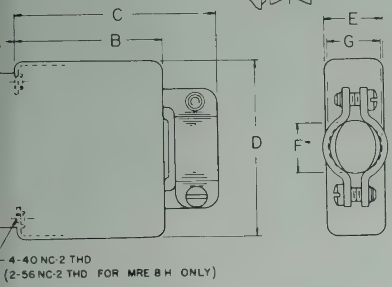
Aluminum Hoods

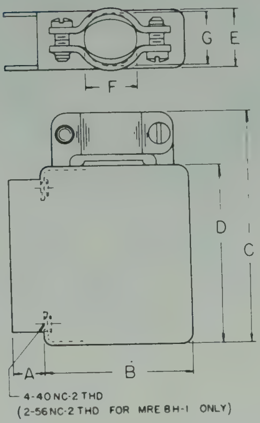
Dimensions are for reference only and are subject to change.

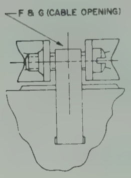
H and H-8
Cable Clamps



H-8 Hoods are identical to H Hood except for cable clamp style and cable opening in the hood.







H-9 Cable Clamp

H-9 Hood is identical to H-1 Hood except for cable clamp style and cable opening in the hood.

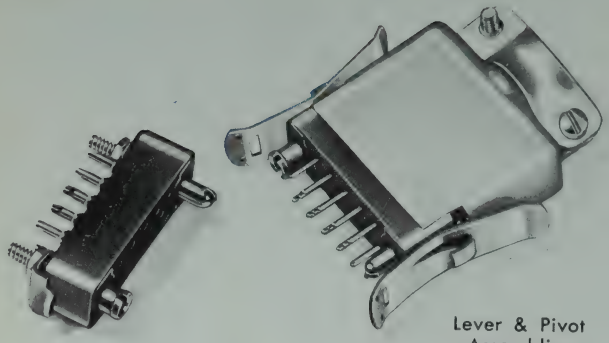
TOP CABLE OPENING

Code No.	Dimensions					Cable Opening		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE 7H	9/32	1	1 5/16	1 7/32	7/16	5/16D	...	.3	MRE 7 (P OR S)
MRE 7H-8	9/32	1	1 19/64	1 7/32	7/16	19/32	5/16	.3	MRE 7 (P OR S)
MRE 8H	9/32	1	1 5/16	13/16	7/16	1/4D	...	.2	MRE 8 (P OR S)
MRE 8H-8	9/32	1	1 19/64	13/16	7/16	5/16D	...	.2	MRE 8 (P OR S)
MRE 9H	9/32	1	1 5/16	1 5/16	7/16	5/16D	...	.3	MRE 9 (P OR S)
MRE 9H-8	9/32	1	1 19/64	1 5/16	7/16	19/32	5/16	.3	MRE 9 (P OR S)
MRE 14 H	9/32	3/4	1 3/16	1 1/4	1/2	7/16D	...	.3	MRE 14 (P OR S)
MRE 14H-8	9/32	3/4	1 3/64	1 1/4	1/2	19/32	3/8	.3	MRE 14 (P OR S)
MRE 18H	9/32	3/4	1 3/16	1 5/16	5/8	7/16D	...	.4	MRE 18 (P OR S)
MRE 18H-8	9/32	3/4	1 1/4	1 5/16	5/8	5/8	7/16	.4	MRE 18 (P OR S)
MRE 20H	1/4	3/4	1 3/16	1 9/16	1/2	7/16D	...	.3	MRE 20 (P OR S)
MRE 20 H-8	1/4	3/4	1 3/64	1 9/16	1/2	21/32	3/8	.3	MRE 20 (P OR S)
MRE 21 H	9/32	29/32	1 11/32	2 1/4	7/16	19/32	5/16	.5	MRE 21 (P OR S)
MRE 21H-8	9/32	29/32	1 23/64	2 1/4	7/16	25/32	5/16	.5	MRE 21 (P OR S)
MRE 26H	9/32	1 9/32	1 23/32	1 5/8	41/64	19/32	3/8	.4	MRE 26 (P OR S)
MRE 26H-8	9/32	1 9/32	1 25/32	1 5/8	41/64	25/32	7/16	.4	MRE 26 (P OR S)
MRE 34H	9/32	1 1/4	1 11/16	2	53/64	21/32D	...	.6	MRE 34 (P OR S)
MRE 34H-8	9/32	1 1/4	1 3/4	2	54/64	1 1/16	9/16	.6	MRE 34 (P OR S)
MRE 41H	9/32	1 1/4	1 11/16	2 5/8	1/2	21/32	7/16	.6	MRE 41 (P OR S)
MRE 42H	3/32	1 19/64	1 47/64	2 5/16	53/64	5/8D	...	.7	MRE 42 (P OR S)
MRE 42H-8	3/32	1 19/64	1 51/64	2 5/16	53/64	1 1/16	9/16	.7	MRE 42 (P OR S)
MRE 50H	3/32	1 19/64	1 47/64	2 19/32	53/64	5/8D	...	.8	MRE 50 (P OR S)
MRE 50 H-8	3/32	1 19/64	1 51/64	2 19/32	53/64	1 1/16	9/16	1.8	MRE 50 (P OR S)
MRE 75H	3/32	1 5/16	1 3/4	2 19/32	1 3/16	5/8	7/8	1.0	MRE 75 (P OR S)
MRE 75H-8	3/32	1 5/16	1 55/64	2 19/32	1 3/16	1	7/8	1.0	MRE 75 (P OR S)
MRE 104H	FOR DIMENSIONS SEE PAGE 7								

* H hoods for MRE 7,8,9,14,18 and 20 will not accept JTC hardware. Use H8 hoods.

SIDE CABLE OPENING

Code No.	Dimensions					Cable Opening		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE 7H-1	9/32	1 9/32	1 17/32	1 7/32	7/16	5/16D	...	.3	MRE 7 (P OR S)
MRE 8H-1	9/32	1 9/32	1 1/8	13/16	7/16	1/4D	...	.2	MRE 8 (P OR S)
MRE 8H-9	9/32	1 9/32	1 1/8	13/16	7/16	19/32	5/16	.2	MRE 8 (P OR S)
MRE 9H-1	9/32	1 9/32	1 5/8	1 5/16	7/16	5/16D	...	.3	MRE 9 (P OR S)
MRE 9H-9	9/32	1 9/32	1 39/64	1 5/16	7/16	19/32	5/16	.3	MRE 9 (P OR S)
MRE 14H-1	9/32	1 9/32	1 11/16	1 1/4	1/2	3/8D	...	.3	MRE 14 (P OR S)
MRE 14H-9	9/32	1 9/32	1 35/64	1 1/4	1/2	19/32	3/8	.3	MRE 14 (P OR S)
MRE 18H-1	9/32	1 9/32	1 3/4	1 5/16	5/8	7/16D	...	.3	MRE 18 (P OR S)
MRE 18H-9	9/32	1 9/32	1 13/16	1 5/16	5/8	11/16	7/16	.3	MRE 18 (P OR S)
MRE 20H-1	9/32	1 9/32	2	1 9/16	1/2	3/8D	...	.3	MRE 20 (P OR S)
MRE 20H-9	9/32	1 9/32	1 55/64	1 9/16	1/2	21/32	3/8	.3	MRE 20 (P OR S)
MRE 21H	9/32	1 9/32	2 11/16	2 1/4	7/16	17/32	1/4	.5	MRE 21 (P OR S)
MRE 21H-8	9/32	1 9/32	2 23/32	2 1/4	7/16	25/32	5/16	.5	MRE 21 (P OR S)
MRE 26H-1	9/32	1 9/32	2 1/16	1 5/8	41/64	19/32	3/8	.4	MRE 26 (P OR S)
MRE 26H-9	9/32	1 9/32	2 1/8	1 5/8	41/64	25/32	7/16	.4	MRE 26 (P OR S)
MRE 34H-1	9/32	1 1/4	2 27/64	2	53/64	21/32D	...	.6	MRE 34 (P OR S)
MRE 34H-9	9/32	1 1/4	...	2	53/64	13/16	9/16	.6	MRE 34 (P OR S)
MRE 41H-1	9/32	1 1/4	3 1/16	2 5/8	1/2	21/32	7/16	.6	MRE 41 (P OR S)
MRE 42H-1	3/32	1 19/64	2 47/64	2 5/16	53/64	5/8	1/2	.7	MRE 42 (P OR S)
MRE 42H-9	3/32	1 19/64	...	2 5/16	53/64	27/32	9/16	.7	MRE 42 (P OR S)
MRE 50H-1	3/32	1 19/64	3 1/64	2 19/32	53/64	5/8	1/2	.8	MRE 50 (P OR S)
MRE 50H-9	3/32	1 19/64	...	2 19/32	53/64	1 1/16	9/16	.8	MRE 50 (P OR S)
MRE 75H-1	3/32	1 5/16	3 1/64	2 19/32	1 3/16	5/8	7/8	1.0	MRA 75 (P OR S)
MRE 75H-9	3/32	1 5/16	...	2 19/32	1 3/16	1	7/8	1.0	MRA 75 (P OR S)
MRE 104H-9	FOR DIMENSIONS SEE PAGE 7								



Lock Tabs
(MRE-V shown)

Lever & Pivot
Assemblies
(MRE-VL shown)

Vibration Locks*

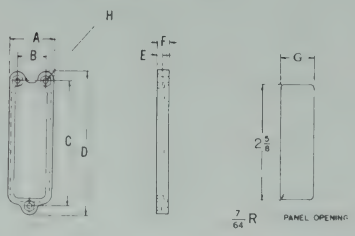
Vibration locks offer simplicity of design and positive locking in excess of 50G shock impact and 10G vibration acceleration. Mating halves automatically lock when engaged. To unlock, depress the levers. Drilled holes in the levers are provided for safety wiring. Vibration locks are available separately for assembly on connectors now in service. Each code number indicates two units: two levers with two pivots, and two lock tabs.

*US Patent Number 2760174

Lever & Pivot Assembly	Lock Tabs (See Note)	Used on Connectors
MRE-VL	MRE-V	MRE 9, 14, 20, 34, 41, 42, 66
MRE-VL2	MRE-V2	MRE 50, 75

Note: When panel mounting the lock-tab half of a MRE 34, MRE 42 or MRE 50 and MRE 66 connector, flat washers (.033 minimum thickness) should be used on the mounting screws to shim the molding away from the panel.

MOUNTING BRACKETS



Code No.	DIMENSIONS								
	A	B	C	D	E	F	G	H	WGT
MRE 50B	$1\frac{1}{16}$	.688	3.031	$3\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{25}{32}$	.128 DIA 3 HOLES (No. 4 MOUNTING SCREW)	.4 oz.
MRE 75B	$1\frac{31}{64}$	1.047	3.062	$3\frac{9}{16}$	$\frac{9}{64}$	$\frac{19}{64}$	$1\frac{9}{64}$	.150 DIA. 3 HOLES (No. 6 MOUNTING SCREW)	.6oz

Potting Form Code No.	Fig.	Dimensions	
		A	B
MRE 7 FM	III	.62	.43
MRE 8 FM	II	.46	.43
MRE 9 FM	III	.77	.43
MRE 14 FM	II	.93	.49
MRE 18 FM	II	.87	.61
MRE 20 FM	II	1.12	.49
MRE 21 FM	III	1.68	.43
MRE 26 FM	II	1.18	.61
MRA 34 FM	I	1.38	.80
MRE 41 FM	II	2.18	.49
MRE 42 FM	I	1.69	.80
MRE 50 FM	I	1.97	.80
MRE 75 FM	I	1.98	1.16

Each form matches the back opening contour of its appropriate shell, and stays easily in place during the potting operation. Of negligible weight, it need not be removed from the connector after potting. Because of floating contacts, connector halves should always be engaged during the potting operation to preserve contact alignment.

PRE-SHAPED NYLON POTTING FORMS

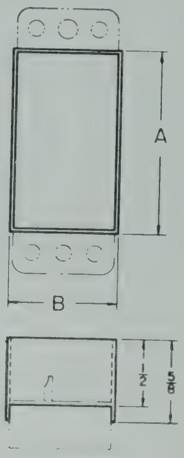


Figure I

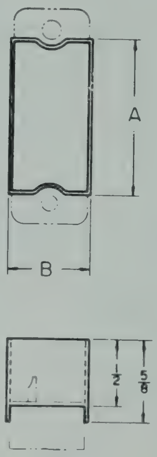


Figure II

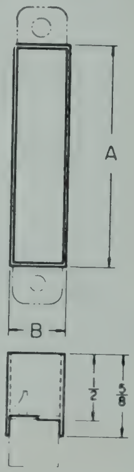


Figure III

Ordering Information - Code Numbering System

Specify complete plug or receptacle by following Steps 1 through 9
Omit steps not required

Step	1	2	3	4	5	6	7	8	9
	MRE	34	S		G	H	VL		

Step 1
Insert Code Series

Step 2
Number of Contacts
7, 9, 11, 14, 18, 20, 21, 26, 34,
41, 42, 50, 75, 104, 5-3, 8

Step 3
Contact Designation
P - Pin S - Socket

P8, S8 } For thru hole for monojacks -
Sizes 34, 42, 50,75, 104

Step 4
Type of Contact
This step to be used only when a special material, finish, or style is required. Omit when standard contacts are used. Consult Sales Department for proper designation of Dip Solder Terminations.

Step 9
Special Options
Consult Sales Department

Step 8
Accessories
FM - Potting Forms
Cannot be Used with Hoods

Step 7
Vibration Locks
V - Lock Tab
V2 - Lock Tab (Size 50 & 75)
VL - Lever & Pivot Ass'y
VL2 - Lever & Pivot Ass'y (Size 50 & 75)

Step 6
Hoods
H - Standard Top Opening*
H1 - Standard Side Opening
H8 - Large top Opening
H9 - Large Side Opening

* For MRE 7, 8, 9, 14, 18 and 20, JTC hardware may not be used with H hoods. Use H8 hoods.

Step 5
Guides and Jackscrew Locks

Guides

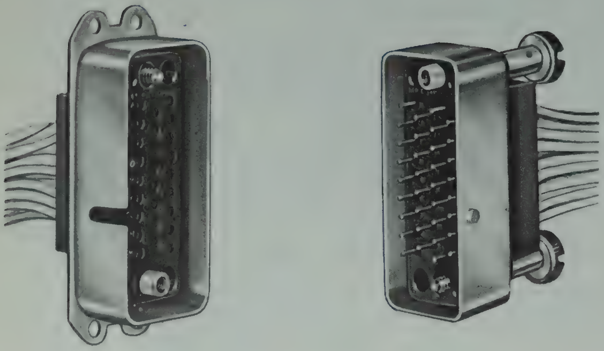
G	Phosphor Bronze Cylindrical Guides
K	Beryllium Copper Cylindrical Guides
N	Brass Cylindrical Guides

Guides are not recommended for Size 104
"P" indicates two guide pins or two jackscrews (Ex. JTCP)
"S" indicates two guide sockets or two jacksockets. (Ex. GS)

Jackscrew Locks

J —	Polarized Fixed Jackscrew and Jacksocket
JT—	Polarized Short TurningJackscrew and Jacksocket
JTC —	Polarized Long Turning Jackscrew and Jacksocket
JTD —	Polarized Long Turning Mono-Jackscrew and Mono-Jacksocket for Sizes 34, 42,50,75, and 104 only.
JZ—	Same as J but with 6-32 mtg. thd. (Not available 5-3,8) (Std. on 104)
JTW—	Sames as JT but with knurled round knob with internal hex (not avail. 5-3, 8,104)
JTU —	Same as JT but with knurled round knob with screwdriver slot (not avail. 5-3, 8, 104)
JTX —	Same as JT but with hex knob (not avail. 5-3, 8, 104)
JTCW —	Same as JTC but with knurled round knob with internal hex (not avail. 5-3, 8, 104)
JTCU —	Same as JTC but with knurled round knob with screwdriver slot (not avail. 5-3, 8, 104)
JTCX —	Same as JTC but with hex knob (not avail. 5-3, 8, 104)
JTCZ —	Same as JTC but with prybar knob.

Mounting Note: Connectors MRE 41, MRE 26, and smaller use guides for mounting in a hood or on a panel. Connectors MRE 34, MRE 42, MRE 50, MRE 75, use four #4 machine screws, in addition to guides, for mounting in a hood or on a panel.



A typical Series "XMRE" Receptacle and Plug fully wired and potted.

The XMRE and XMRA Series connectors are designed to provide a sturdy, space-saving, lightweight electrical connection. Inserts are housed in protective shells with screw lock coupling plus wall and cable mounting accessories available.

Specifications

Current Rating:
XMRA - 13 Amps
XMRE - 7.5 Amps

No. of Contacts:
XMRA - 9, 14, 20, 34, 42, 50, 50-8, 66, 75, 104
XMRE - 9, 14, 18, 20, 26, 34, 42, 50, 75, 104

Pin Contacts:
XMRA - .062 diameter, gold plated brass
XMRE - .040 diameter, gold plated brass

Socket Contacts: Spring temper phosphor bronze plated gold.

Termination Types:
XMRA - .070 dia. solder cup will accept up to #16 AWG stranded wire.

XMRE - .048 dia. solder cup will accept up to #20 AWG stranded wire.

Electrical Data: Both XMRE and XMRA meet high potential performance requirements of MIL-C - 28748.

Military versions are QPL'd to M28748/1 and M28748/2 (XMRA) and to M28748/5 and M28748/6 (XMRE)

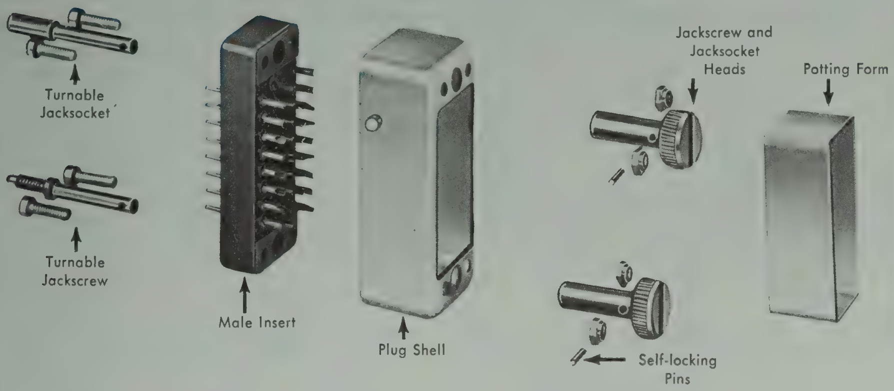
The minimum dielectric withstanding voltage is one minute electrification at 1000 VAC (sea level) for XMRA and 1200 VAC for XMRE Series.

Dielectric: Brown mineral filled diallyl phthalate. Also available in gray glass filled diallyl phthalate.

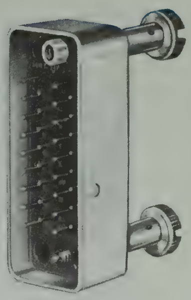
Polarization: A polarizing stud in the plug shell and a mating slot in the receptacle shell, eliminates misalignment. Jackscrews and jacksockets or guide pins and sockets are alternative methods of polarization.

Hoods: Anodized Aluminum. May be applied to both plug and receptacles. Both top and side opening hoods are available.

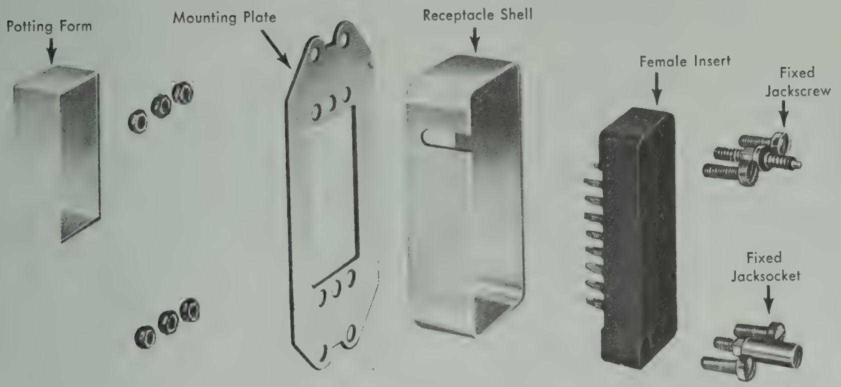
Typical Mating Connector Assemblies



Exploded View of PLUG



Plug



Exploded View of RECEPTACLE

Receptacle

DEFINITIONS OF CONNECTOR TERMS

Plug: The complete connector half which has the plug shell as part of its assembly.

Receptacle: The complete connector half which has the receptacle shell as part of its assembly.

Shell: The metal housing in which a male or female insert is assembled. A shell is either a plug shell or a receptacle shell:

Plug Shell: One which is designed to be inserted into a receptacle shell.

Receptacle Shell: One which is designed to receive and enclose the plug shell upon engagement.

Male Insert: The molded insulator body containing pin contacts.

Female Insert: The molded insulator body containing socket contacts.

Pin Contacts: Male metal conductors that fit into the socket contacts.

Socket Contacts: Female metal conductors, tubular in shape, which receive the pin contacts and retain them by spring tension.

Polarization: A means of controlling the engagement of a plug and receptacle so that correct mating of the contacts is achieved.

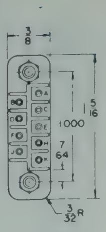
Potting Form: A plastic mold used to retain and shape the sealing compound during the moisture-proofing, or potting, operation.

Potting: A method of moisture-proofing the back of a plug or receptacle and the soldered wire connections, by injecting a free flowing sealing compound into a pre-shaped form and allowing it to set. The result is a homogeneous mass, chemically bonded to the back of the insert and around the soldered connections.

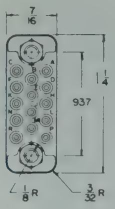
Accessories: Those components such as hoods, mounting plates and finger grips which are attachable to a plug or receptacle to facilitate mounting and/or handling of the connector.

Contact Arrangements

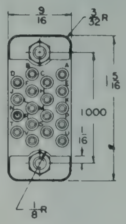
Dimensions are for reference only and are subject to change. Outline drawings on request.



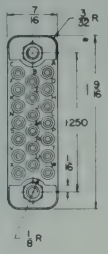
9 Contacts
XMRE 9 or XMRA 9



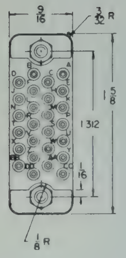
14 Contacts
XMRE 14 or XMRA 14



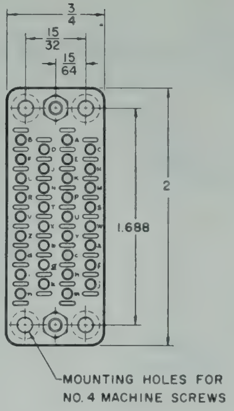
18 Contacts
XMRE 18



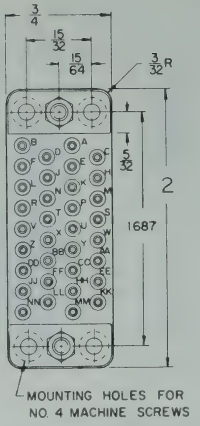
20 Contacts
XMRE 20 or XMRA 20



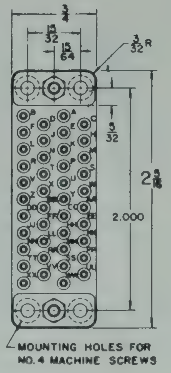
26 Contacts
XMRE 26



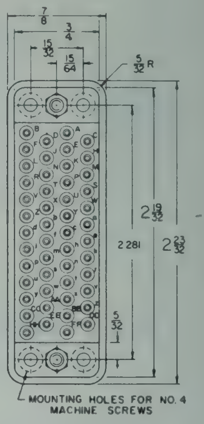
34 Contacts XMRA 34



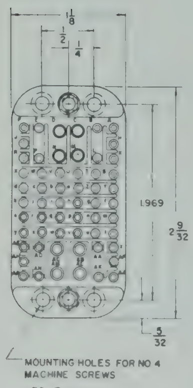
34 Contacts XMRE 34



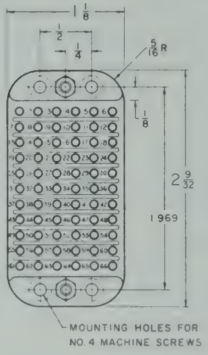
42 Contacts
XMRE 42 or XMRA 42



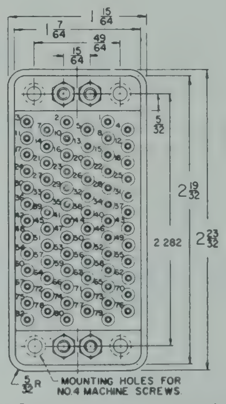
50 Contacts
XMRE 50 or XMRA 50



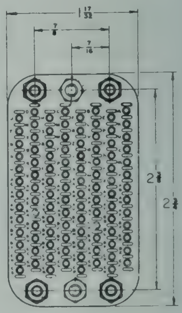
58 Contacts
XMRA 50-8



66 Contacts
XMRA 66



75 Contacts XMRE 75 or XMRA 75



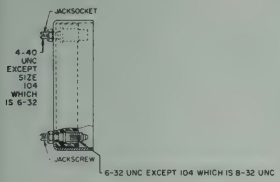
104 Contacts
XMRA 104
XMRE 104

Views are rear (wiring end) of female inserts (male inserts are opposite). The spacing, arrangement, and identification of contacts of the **XMRE** inserts are the same as found on the Series MRE Connectors for the same number of contacts.

Jackscrew Locking Devices

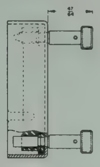
Polarized jackscrews offer the ease and assurance of threaded positive coupling. They are particularly desirable for the larger connectors (XMRE 34 and larger) whenever they are to be used in locations that make it difficult to get enough direct pull to separate the two halves of the connector.

Type C (Long-turning jackscrews and jacksockets) or Type D (Monojacks) must be specified if both jackscrews and hood are required on the same connector half. Monojacks eliminate the need for roll pins, spacers and washers.


JACKSOCKET
4-40 UNC EXCEPT SIZE 104 WHICH IS 6-32
JACKSCREW
6-32 UNC EXCEPT 104 WHICH IS 8-32 UNC

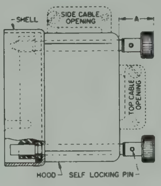
Connector with
fixed Jackscrews
Code designation: F

AND



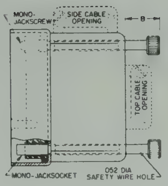
Mating connector half with
turnable Jackscrews-with-Knobs
Code designation: M

OR



Mating connector half with Hood and
turnable Long Jackscrews-with-Knobs
Code designation: C-0300, C-0400

OR



Mating connector half with Hood
and turnable Monojacks
Code designation: D-0300, D-0400

DIMENSION "A"

XMRE	9	14	18	20	26	34	42	50	75	104
0300	...	...	...	...	49/64	37/64	17/32	17/32	33/64	...
0300X	17/32	17/32	25/32	17/32	35/64	37/64	17/32	17/32	33/64	...
0400	35/64	35/64	35/64	35/64	35/64	37/64	17/32	17/32	33/64	...
0400X	...	...	...	35/64	35/64	37/64	17/32	17/32	33/64	...

XMRA	9	14	20	34	42	50	50-8	66	75	104
0700	...	...	...	37/64	...	...	41/64	41/64	...	33/64
0800	...	...	...	37/64	...	...	41/64	41/64	...	33/64

Drawings show extension of knobs beyond Shell (left) and beyond Hood. Refer to details of Shells and Hoods for the other dimensions which vary according to connector size.

DIMENSION "B"

Hood	34	42	50	66	75	104
0300	19/32	35/64	35/64	...	17/32	...
0400	19/32	35/64	35/64	...	17/32	...
0700	...	...	...	3/8	...	3/8
0800	...	...	..	3/8	...	3/8

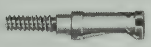
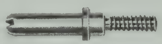
Note 1: Weights are given for pairs, i.e., for a jackscrew and a jacksocket, etc., so that the weight figure may be added once to the weights of other accessories when computing the total weight of a plug or receptacle.

Note 2: Weights of turnable jackscrews and turnable jacksockets include knobs and roll pins; weights of fixed ones include nuts.

SPECIFICATIONS

Part	Code Letter	Wt. Oz. See Notes 1 & 2	Material and Finish
Jackscrews Jacksockets	Turnable M	0.30	stainless steel with passivating dip
Jackscrews Jacksockets	Long Turnable C	0.45	stainless steel with passivating dip
Jackscrews Jacksockets	Fixed F	0.15	stainless steel with passivating dip
Knobs (except Monojacks)			al. anodized
Monojackscrews Monojacksockets	Turning Turning D		stainless steel with passivating dip

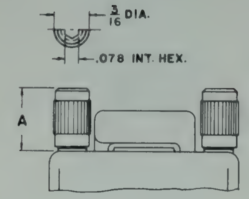
GUIDE SOCKET AVAILABILITY CHART

Guide Socket Code Letter	Actual Size Photo	
G	 G type For General Use	 Standard Guide Pin mates with all types
K	K type For High Electrical Conductivity	
N	N type For Extra Mechanical Strength	

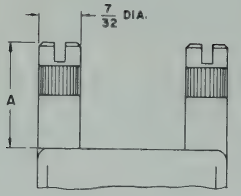
MATERIALS
"G" Socket: Phosphor bronze.
"K" Socket: Beryllium copper.
"N" Socket: Brass.
Guide Pin: Brass.

FINISH
Gold over copper.

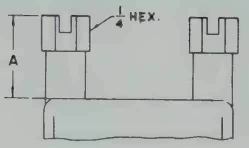
Jackscrew Locking For Series XMRE, XMRA



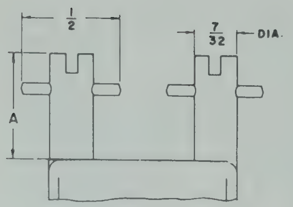
CW



CU



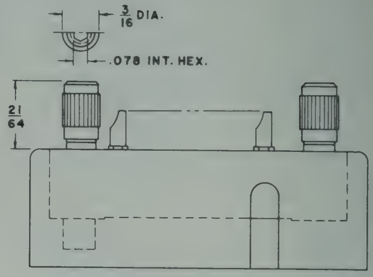
CX



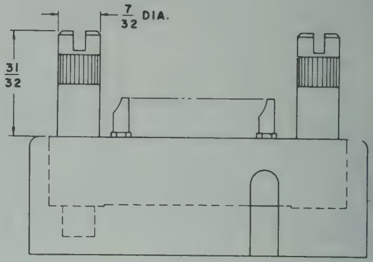
CZ

Size	0300	0400	0300X	0400X	0700	0800
DIMENSION A—TYPE CW						
9	–	23/64	11/32	23/64	–	–
14	–	23/64	11/32	23/64	–	–
18	–	23/64	11/32	23/64	–	–
20	–	23/64	11/32	23/64	–	–
26	23/64	23/64	23/64	23/64	–	–
34	25/64	25/64	25/64	25/64	15/32	15/32
42	11/32	11/32	11/32	11/32	–	–
50	11/32	11/32	11/32	11/32	–	–
50-8	–	–	–	–	15/32	15/32
66	–	–	–	–	15/32	15/32
75	21/64	21/64	21/64	21/64	–	–
DIMENSION A—TYPE CU						
9	–	39/64	19/32	39/64	–	–
14	–	39/64	19/32	39/64	–	–
18	–	39/64	19/32	39/64	–	–
20	–	39/64	19/32	39/64	–	–
26	39/64	39/64	39/64	39/64	–	–
34	41/64	41/64	41/64	41/64	23/32	23/32
42	19/32	19/32	19/32	19/32	–	–
50	19/32	19/32	19/32	19/32	–	–
50-8	–	–	–	–	23/32	23/32
66	–	–	–	–	23/32	23/32
75	37/64	37/64	37/64	37/64	–	–
DIMENSION A—TYPE CX						
9	–	31/64	15/32	31/64	–	–
14	–	31/64	15/32	31/64	–	–
18	–	31/64	23/32	31/64	–	–
20	–	31/64	15/32	31/64	–	–
26	49/64	31/64	31/64	31/64	–	–
34	33/64	33/64	33/64	33/64	39/64	39/64
42	15/32	15/32	15/32	15/32	–	–
50	15/32	15/32	15/32	15/32	–	–
50-8	–	–	–	–	39/64	39/64
66	–	–	–	–	39/64	39/64
75	29/64	29/64	29/64	29/64	–	–
DIMENSION A—TYPE CZ						
9	–	39/64	19/32	39/64	–	–
14	–	39/64	19/32	39/64	–	–
18	–	39/64	27/32	39/64	–	–
20	–	39/64	19/32	39/64	–	–
26	59/64	39/64	39/64	39/64	–	–
34	41/64	41/64	41/64	41/64	23/32	23/32
42	19/32	19/32	19/32	19/32	–	–
50	19/32	19/32	19/32	19/32	–	–
50-8	–	–	–	–	23/32	23/32
66	–	–	–	–	23/32	23/32
75	37/64	37/64	37/64	37/64	–	–

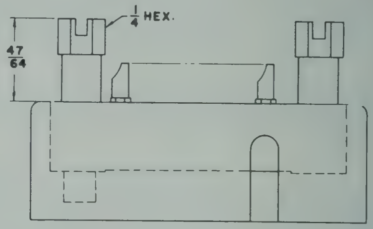
All jackscrews and sockets are stainless steel, passivated. All knobs are aluminum, anodized except MW and CW which are stainless steel, passivated.



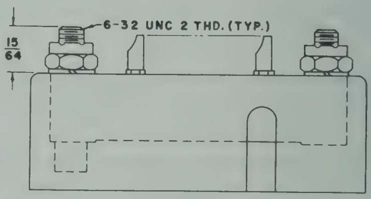
MW



MU



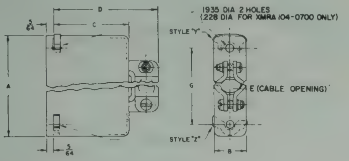
MX



FZ

Drawn Hoods

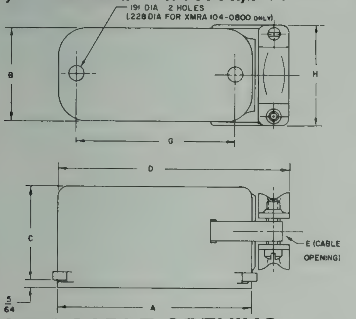
Dimensions are for reference only and are subject to change.



TOP CABLE OPENING

HOODS - TOP CABLE OPENING							
	††	Dimensions					
		A	B	C	D	E	G
For use with Type C Jack-sockets and Jackscrews	XMRA 34-0700	2 3/32	27/32	1 11/64	1 19/32	21/32X3/4	1.688
	XMRA 50-8-0700	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	1.969
	XMRA 66-0700	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	1.969
	XMRA 104-0700	2 27/32	1 5/8	2 15/64	2 3/4	1 3/16D.	2.375
For Use With Type D Jack Sockets and Jackscrews	XMRA 34-0700D	2 3/32	27/32	1 11/64	1 19/32	21/32X3/4	1.688
	XMRA 50-8-0700D	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	1.969
	XMRA 66-0700D	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	1.969
	XMRA 104-0700D	2 27/32	1 5/8	2 15/64	2 3/4	1 3/16D.	2.375
For use with G, K, or N Type Guides or Type F Jackscrews	XMRA 34-0900	2 3/32	27/32	1 11/64	1 19/32	21/32X3/4	...
	XMRA 50-8-0900	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	...
	XMRA 66-0900	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	...
	XMRA 104-0900	2 27/32	1 5/8	2 15/64	2 3/4	1 3/16D.	...

Hd Part No. †† (If ordered separately) XMRE 34-0700 and XMRE 34-0900 are style "Z" Hood Mounts. All others are style "Y".



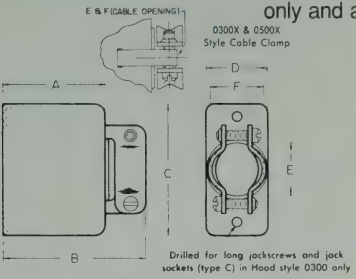
SIDE CABLE OPENING

	††	Dimensions						
		A	B	C	D	E	H	G
For use with Type C Jack-sockets and Jackscrews	XMRA 34-0800	2 3/32	27/32	1 5/32	2 37/64	41/64X3/4	1 1/16	1.688
	XMRA 50-8-0800	2 3/8	1 7/32	1 5/32	2 29/32	27/32D.	1 11/32	1.969
	XMRA 66-0800	2 3/8	1 7/32	1 5/32	2 29/32	27/32D.	1 11/32	1.969
	XMRA 104-0800	2 27/32	1 5/8	2 7/32	3 3/8	1 3/16D.	1 5/8	2.375
Type D Jack Sockets and Jackscrews	XMRA 34-0800D	2 3/32	27/32	1 11/64	2 37/64	41/64X3/4	1.688	1 1/16
	XMRA 50-8-0800D	2 3/8	1 7/32	1 11/64	2 29/32	27/32D.	1.969	1 11/32
	XMRA 66-0800D	2 3/8	1 7/32	1 11/64	2 29/32	27/32D.	1.969	1 11/32
	XMRA 104-0800D	2 27/32	1 5/8	2 15/64	3 3/8	1 3/16D.	2.375	1 5/8
For use with G, K, or N Type Guides or Type F Jackscrews	XMRA 34-0200	2 3/32	27/32	1 5/32	2 37/64	41/64X3/4	1 1/16	...
	XMRA 50-8-0200	2 3/8	1 7/32	1 5/32	2 29/32	27/32D.	1 11/32	...
	XMRA 66-0200	2 3/8	1 7/32	1 5/32	2 29/32	27/32D.	1 11/32	...
	XMRA 104-0200	2 27/32	1 5/8	2 7/32	3 3/8	1 3/16D.	1 5/8	...

Hd Part No. †† (If ordered separately) XMRA 34-0800 and XMRA 34-0200 are style "Z" Hood Mounts. All others are style "Y".

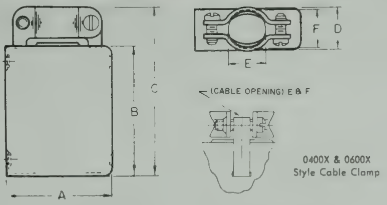
Formed Hoods

Dimensions are for reference only and are subject to change


E & F (CABLE OPENING)
0300X & 0500X Style Cable Clamp
D
F
A
C
E
B
Drilled for long jackscrews and jack sockets (type C) in Hood style 0300 only

TOP CABLE OPENING

For use with Monojacks	For use with Type C Jack Sockets and Jackscrews Hood Part No. (If ordered separately)	For use with G, K, or N Type Guides or Type F Jackscrews	Dimensions				Cable Open'g		
			A	B	C	D	E Dia.	F Dia.	Wt. Oz.
		XMRE 9-0500	1	1 5/16	1 5/16	7/16	5/16		0.3
	XMRE 9-0300X	XMRE 9-0500X	1	1 19/64	1 5/16	7/16	19/32	5/16	
		XMRE 14-0500	3/4	1 3/16	1 1/4	1/2	7/16D		0.3
	XMRE14-0300X	XMRE 14-0500X	3/4	1 3/64	1 1/4	1/2	19/32	3/8	
		XMRE 18-0500	3/4	1 3/16	1 5/16	5/8	7/16D		0.4
	XMRE 18-0300X	XMRE 18-0500X	3/4	1 1/4	1 5/16	5/8	5/8	7/16	
		XMRE 20-0500	3/4	1 3/16	1 9/16	1/2	7/16D		0.3
	XMRE 20-0300X	XMRE 20-0500X	3/4	1 3/64	1 9/16	1/2	21/32	3/8	
	XMRE 26-0300	XMRE 26-0500	1 9/32	1 23/32	1 5/8	41/64	19/32	3/8	0.4
XMRE 34-0300D	XMRE 34-0300	XMRE 34-0500	1 1/4	1 11/16	2	53/64	21/32D	....	0.6
XMRE 42-0300D	XMRE 42-0300	XMRE 42-0500	1 19/64	1 47/64	2 5/16	53/64	5/8D	...	0.7
XMRE 50-0300D	XMRE 50-0300	XMRE 50-0500	1 19/64	1 47/64	2 5/16	53/64	5/8D	...	0.8
XMRE 50-0300XD	XMRE 50-0300X	XMRE 50-0500X	1 19/64	1 51/64	2 19/32	53/64	1 1/16	9/16	
XMRE 75-0300D	XMRE 75-0300	XMRE 75-0500	1 5/16	1 3/4	2 19/32	1 3/16	5/8	7/8	1.0
XMRE 75-0300XD	XMRE 75-0300X	XMRE 75-0500X	1 5/16	1 55/64	2 19/32	1 3/16	1	7/8	



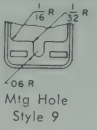
SIDE CABLE OPENING

For use with Monojacks	For use with Type C Jack Sockets and Jackscrews Hood Part No. (If ordered separately)	For use with G, K, or N Type Guides or Type F Jackscrews	Dimensions				Cable Open'g		
			A	B	C	D	E Dia.	F Dia.	Wt. Oz.
	XMRE 9-0400	XMRE 9-0600	1 9/32	1 5/16	1 5/8	7/16	5/16D	...	0.3
	XMRE 9-0400X	XMRE 9-0600X	1 9/32	1 5/16	1 39/64	7/16	19/32	5/16	
	XMRE 14-0400	XMRE 14-0600	1 9/32	1 1/4	1 11/16	1/2	3/8D	...	0.3
	XMRE 14-0400X	XMRE 14-0600X	1 9/32	1 1/4	1 35/64	1/2	19/32	3/8	
	XMRE 18-0400	XMRE18-0600	1 9/32	1 5/16	1 3/4	5/8	7/16D	...	0.3
	XMRE 18-0400X	XMRE 18-0600X	1 9/32	1 5/16	1 13/16	5/8	11/16	7/16	
	XMRE 20-0400	XMRE 20-0600	1 9/32	1 9/16	2	1/2	3/8D	...	0.3
	XMRE 20-0400X	XMRE 20-0600X	1 9/32	1 9/16	1 55/64	1/2	21/32	3/8	
	XMRE 26-0400	XMRE 26-0600	1 9/32	1 5/8	2 1/16	41/64	19/32	3/8	0.4
	XMRE 26-0400X	XMRE 26-0600X	1 9/32	1 5/8	2 1/8	41/64	25/32	7/16	
XMRE 34-0400D	XMRE 34-0400	XMRE 34-0600	1 1/4	2	2 27/64	53/64	21/32	...	0.9
XMRE 34-0400XD	XMRE 34-0400X	XMRE 34-0600X	1 1/4	2	2 1/2	53/64	13/16	9/16	
XMRE 42-0400D	XMRE 42-0400	XMRE 42-0600	1 19/64	2 5/16	2 47/64	53/64	5/8	1/2	0.7
XRME 42-0400XD	XRME 42-0400X	XMRE 42-0600X	1 19/64	2 5/16	2 13/16	53/64	27/32	9/16	
XMRE 50-0400D	XMRE 50-0400	XMRE 50-0600	1 19/64	2 19/32	3 1/64	53/64	5/8	1/2	0.8
XMRE 50-0400XD	XMRE 50-0400X	XMRE 50-0600X	1 19/64	2 19/32	3 3/32	53/64	1 1/16	9/16	
XMRE 75-0400D	XMRE 75-0400	XMRE 75-0600	1 5/16	2 19/32	3 1/64	1 3/16	5/8	7/8	1.0
XMRE 75-0400XD	XMRE 75-0400X	XMRE 75-0600X	1 5/16	2 19/32	3 9/64	1 3/16	1	7/8	

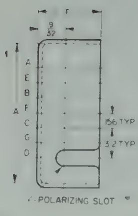
Add "J" to hood P/N when used with "F" jackscrews.

Series XMRE and XMRA Shells

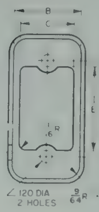
Dimensions are for reference only and are subject to change.



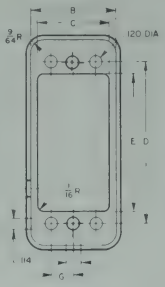
Mtg Hole Style 9



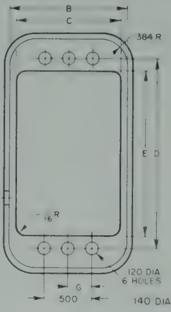
For All Conf.



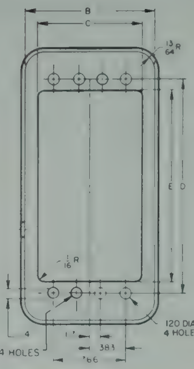
For 9 to 26



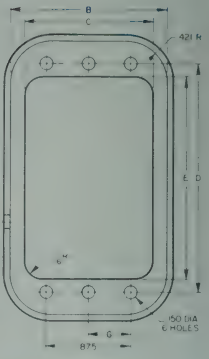
For 34, 42, and 50



For 66 and 50-8



For 75



For 104

RECEPTACLE SHELLS

Shell Part No. (if ordered separately)	Dimensions							Wt.
	A	B	C	D	E	F	G	Oz.
XMRE 9-2*000	1 29/64	33/64	3/8	1.000	7/8	21/32	...	0.15
XMRE 14-2*000	1 25/64	37/64	29/64	.937	13/16	21/32	...	0.16
XMRE 18-2*000	1 29/64	45/64	37/64	1.000	7/8	21/32	...	0.17
XMRE 20-2*000	1 45/64	37/64	29/64	1.250	1 1/8	21/32	...	0.19
XMRE 26-2*000	1 49/64	45/64	37/64	1.312	1 3/16	21/32	...	0.23
XMRE 34-2*000 XMRE 34-4*000	2 9/64	57/64	3/4	1.687	1 7/16	21/32	.234	0.25
XMRE 42-2*000 XMRE 42-4*000	2 29/64	57/64	3/4	2.000	1 3/4	21/32	.234	0.28
XMRE 50-2*000 XMRE 50-4*000	2 55/64	1 1/64	3/4	2.282	2 1/32	21/32	.234	0.30
XMRA 66-2*000 XMRA 66-4*000 XMRA 50-8-2*000 XMRA 50-8-4*000	2 27/64	1 17/64	1 1/8	1.969	1 23/32	21/32	.250	0.28
XMRE 75-2*000 XMRE 75-4*000	2 55/64	1 3/8	1 7/64	2.282	2 1/32	21/32	...	0.32
XMRA 104-2*000 XMRA 104-4*000	2 29/32	1 11/16	1 31/64	2.375	2 1/8	21/32	.437	0.30

Important Note When Ordering Plug and Receptacle Shells

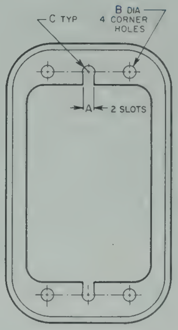
The shell part numbers given in table show an asterisk (*) where the code letter for the desired polarizing position belongs - example: XMRE9-2*000 becomes XMRE9-2B000 when polarization in position "B" is desired. Specify the same position on the mating shell.

For non-polarized shells, merely omit this position, e.g. XMRE9-2000.

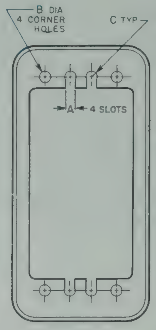
Shells are .040 in. thick.

TYPICAL SHELLS FOR MONOJACKS

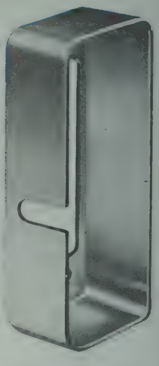
Style No. 4000



For 34, 42, 50, 50-8, 66, and 104 Configuration



For 75 Configuration



Receptacle Shell Style No. 2000

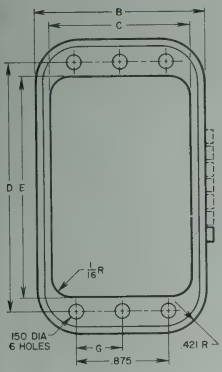
For Connector Size	A	B	C
34,42,50,50-8,66,75	7/64	.120	.06R
104	9/64	.150	.07R

Shells are aluminum, anodized for protection against corrosion. Either shell style - plug or receptacle - may be used to house the female insert, thus allowing the "live" socket contacts to be cable or panel mounted, as desired. Shells also provide a means by which connector polarization is accomplished - the receptacle shell is slotted for engaging a polarizing pin on the plug shell. Any of seven positions (A, B, C, D, E, F, or G) may be specified for polarization; non-polarized shells have the slot and pin omitted.

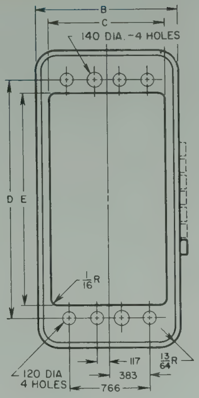
Stainless steel shells available for 66 and 104 sizes. Dimensions vary from those shown for aluminum shells. Check Sales for availability and dimensions on all sizes.

Series XMRE and XMRA Shells

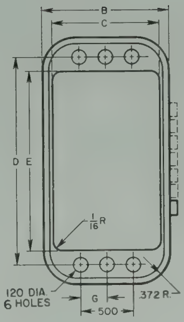
Dimensions are for reference only and are subject to change.



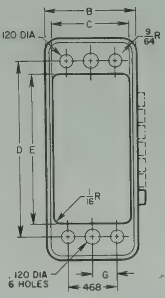
For 104



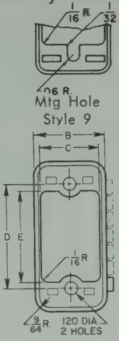
For 75



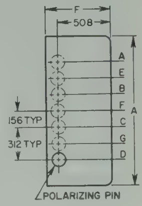
For 66 and 50-8



For 34, 42, and 50



For 9 to 26



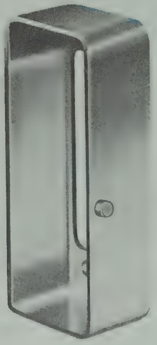
For ALL Config.

PLUG SHELLS

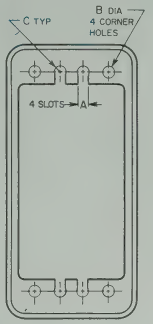
Shell Part No. (if ordered separately)	Dimensions A	B	C	D	E	F	G	Wt. Oz.
XMRE 9-1*000	1 7/16	1/2	3/8	1.000	7/8	5/8	...	0.14
XMRE 14-1*000	1 3/8	9/16	29/64	.937	13/16	5/8	...	0.15
XMRE 18-1*000	1 7/16	11/16	37/64	1.000	7/8	5/8	...	0.16
XMRE 20-1*000	1 11/16	9/16	29/64	1.250	1 1/8	5/8	...	0.18
XMRE 26-1*000	1 3/4	11/16	37/64	1.312	1 3/16	5/8	...	0.22
XMRE 34-1*000 XMRE 34-3*000	2 1/8	7/8	3/4	1.687	1 7/16	21/32	.234	0.24
XMRE 42-1*000 XMRE 42-3*000	2 7/16	7/8	3/4	2.000	1 3/4	21/32	.234	0.26
XMRE 50-1*000 XMRE 50-3*000	2 27/32	1	3/4	2.282	2 1/32	21/32	.234	0.28
XMRA 66-1*000 XMRA 66-3*000 XMRA 50-8-1*000 XMRA 50-8-3*000	2 13/32	1 1/4	1 1/8	1.969	1 23/32	21/32	.250	0.28
XMRE 75-1*000 XMRE 75-3*000	2 27/32	1 23/64	1 7/64	2.282	2 1/32	21/32	...	0.30
XMRA 104-1*000 XMRA 104-3*000	2 7/8	1 21/32	1 31/64	2.375	2 1/8	21/32	.437	0.30

TYPICAL SHELLS FOR MONOJACKS

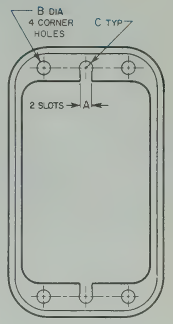
Style No. 3000



Plug Shell
Style No. 1000



For 75 Configuration



For 34, 42, 50, 50-8, 66, and 104 Configuration

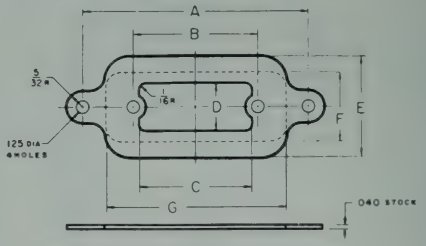
For Connector Size	A	B	C
34,42,50,50-8,66,75	7/64	.120	.06R
104	9/64	.150	.07R

Mounting Plates for External Miniature Rectangular Connectors, Potting Forms

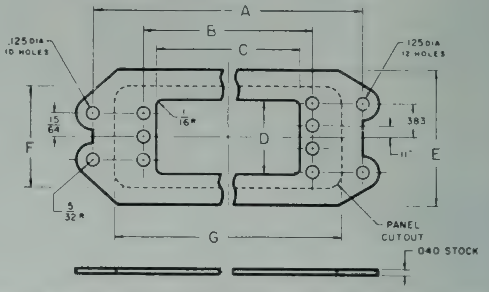
Dimensions are for reference only and are subject to change.

Mounting Plates enable attachment of a connector to a wall, bulkhead, or other supporting surface. The plate is assembled to the back of a plug or receptacle by employing the same hardware and/or guides used to retain the insert in the shell; No. 4 machine screws are then used to mount the complete assembly against the required surface.

Mounting plates are aluminum, anodized to resist corrosion.



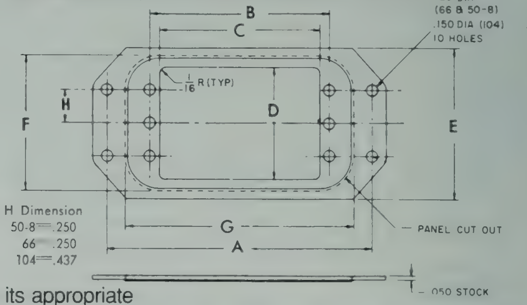
Mounting plate plan view for 9 to 26 contacts



Left half shows holes for 34, 42, 50 contacts; right half for 75 contacts only. Each plate is symmetrical about the indicated center line.

STANDARD MOUNTING PLATES

MOUNTING PLATE PART NO. (IF ORDERED SEPARATELY)	DIMENSIONS					PANEL CUTOUT		WT. OZ.
	A	B	C	D	E	F	G	
XMRE 9-0010	2 1/64	1.000	7/8	13/32	61/64	41/64	1 37/64	0.09
XMRE 14-0010	1 61/64	.937	13/16	15/32	1 1/64	45/64	1 33/64	0.10
XMRE 18-0010	2 1/64	1.000	7/8	19/32	1 9/64	53/64	1 37/64	0.11
XMRE 20-0010	2 17/64	1.250	1 1/8	15/32	1 1/64	45/64	1 53/64	0.12
XMRE 26-0010	2 21/64	1.312	1 3/16	19/32	1 9/64	53/64	1 57/64	0.14
XMRE 34-0010	2 45/64	1.687	1 7/16	3/4	1 21/64	1 1/64	2 17/64	0.15
XMRE 42-0010	3 1/64	2.000	1 3/4	3/4	1 21/64	1 1/64	2 37/64	0.16
XMRE 50-0010	3 27/64	2.281	2 1/32	3/4	1 29/64	1 9/64	2 63/64	0.18
XMRE 75-0010	3 27/64	2.281	2 1/32	1 7/64	1 51/64	1 31/64	2 63/64	0.19
XMRA 50-8-0010 XMRA 66-0010	2 63/64	1.969	1 23/32	1 1/8	1 11/16	1 25/64	2 35/64	0.18
XMRA 104-0010	3 1/2	2.375	2 1/8	1 31/64	2.0	1 13/16	3 1/32	0.19

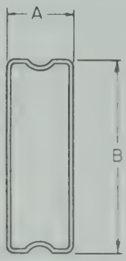


Mounting Plate Plan View for 50-8, 66 & 104 Contacts
Note: 3/16 R for 104 and 5/32 R for 50-8 & 66 for panel cutout

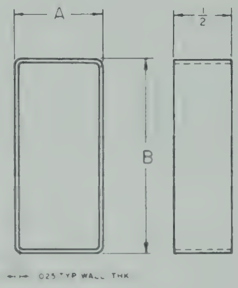
Potting Forms for External Miniature Rectangular Connectors

Dimensions are for reference only and are subject to change.

Nylon Potting Forms: Each form matches the back opening contour of its appropriate shell. Stays easily in place during the potting operation. Of negligible weight, the form need not be removed from the connector after potting. XMRE and XMRA connector-halves should always be engaged during the potting operation to preserve the contact alignment.



Potting form plan view for 9 to 26 contacts.



Potting form plan view for 34, 42, 50, 50-8, 66, and 104 contacts.

POTTING FORMS

POTTING FORM PART NO. (IF ORDERED SEPARATELY)	DIMENSIONS	
	A	B
XMRE 9-0100	3/8	55/64
XMRE 14-0100	29/64	13/16
XMRE 18-0100	9/16	55/64
XMRE 20-0100	7/16	1 7/64
XMRE 26-0100	9/16	1 11/64
XMRE 34-0100	3/4	1 25/64
XMRE 42-0100	3/4	1 11/16
XMRE 50-0100	3/4	1 53/64
XMRE 75-0100	1 7/64	1 63/64

POTTING FORMS

POTTING FORM PART NO. (IF ORDERED SEPARATELY)	DIMENSIONS	
	A	B
XMRA 9-0100	3/8	55/64
XMRA 14-0100	29/64	1 7/64
*XMRA 20-0100	7/16	1 7/64
XMRA 34-0100	3/4	1 25/64
XMRA 42-0100	3/4	1 11/16
XMRA 50-0100	3/4	2 1/32
XMRA 50-8-0100	1 1/8	1 23/32
XMRA 66-0100	1 1/8	1 23/32
XMRA 75-0100	1 7/64	2 1/32
XMRA 104-0100	1 31/64	2 5/64

*Stepped construction not shown or dimensioned.
Cut-outs to clear XMRA barriers not

Code Numbering System

XMRE 34	S		-F	-2	A	1	10	
XMRA 34	S		-F	-2	A	1	10	
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9

SPECIFY COMPLETE PLUG OR RECEPTACLE BY FOLLOWING STEPS 1 THROUGH 9

Step 1: Insert Code

No. of Contacts

XMRA 9, 14, 20, 34, 42, 50, 50-8, 66, 75, 104

XMRE 9, 14, 18, 20, 26, 34, 42, 50, 75, 104

Step 2: Pin or Socket Contacts

P - Pin
S - Socket

Step 3: Type of Contact

This step is used only when a special material or finish is required. Standard pin or socket contacts with solder cup supplied.

Step 4:

***Guides**

G - Cylindrical guide with single spring member. Recommended for ground only.

K - Cylindrical guide with four spring members. May be used for electrical contact.

N - Cylindrical guide without spring member. Recommended for extra mechanical strength.

***Jackscrews and Jacksockets**

M - Polarized short turnable jackscrew and jacksocket. Cannot be used with hoods.

C - Polarized long turnable jackscrew and jacksocket for use with hoods.

D - Polarized turnable monojack screw and socket for use with hoods for sizes 34 thru 104 excluding 41.

F - Polarized fixed jackscrew and jacksocket. May be used with hoods from 34 thru 104 only.

J - Non-polarized short turnable jackscrews. Cannot be used with hoods.

L - Non-polarized long turning jackscrews, for use with hoods.

R - Non-polarized fixed jacksockets.

FZ - Same as F but with 6-32 mtg thd (std on 104).

MW - Same as M but with knurled round knob with internal hex (not avail. 104).

MU - Same as M but with knurled round knob with screwdriver slot (not avail. 104).

MX - Same as M but with hex knob (not avail 104).

CW - Same as C but with knurled round knob with internal hex (not avail. 104).

CU - Same as C but with knurled round knob with screwdriver slot (not avail. 104).

CX - Same as C but with hex knob (not avail. 104).

CZ - Same as C but with prybar knob (not avail. 104).

Step 5: Shell type

1 - Plug shell, style 1*000.

2 - Receptacle shell, style 2*000.

3 - Plug shell, monojack type, style 3*000.

4 - Receptacle, monojack type, style 4*000.

7 - Stainless Steel Plug shell, style 7*000 (66 & 104 only)

8 - Stainless Steel Receptacle shell, style 8*000 (66 & 104 only)

Step 6: Polarization Position

A, B, C, D, E, F or G.

Omit letter when polarization is not required.

Step 7: POTTING FORM OR HOODS

0 - When no potting form is required.

1 - Potting form style #0100.

Formed Hoods

3 - Hood, top opening, style #0300, for use with Type "C", "D", or "L" jackscrews.

4 - Hood, side opening, style #0400, for use with Type "C", "D", or "L" jackscrews.

5 - Hood, top opening, style #0500, for use with "G", "K", or "N" type guides only and "F" style jackscrews.

6 - Hood, side opening, style #0600, for use with "G", "K", or "N" type guides only and "F" style jackscrews.

Deep Drawn Hoods

7 - Hood, top opening, style #0700, for use with type "C", "D", or "L" jackscrews.

8 - Hood, side opening, style #0800, for use with type "C", "D", or "L" jackscrews.

9 - Hood, top opening, style #0900, for use with "G", "K", and "N" type guides or "F" and "R" jackscrews.

2 - Hood, side opening, style #0200, for use with "G", "K", or "N" type guides or "F" and "R" jackscrews.

Step 8: Mounting Plate or Finger Grips

00 - When no mounting plate is required.

†10 - Mounting plate, style #0010.

†Mounting plates are not used with "M", "C", "D", "J", or "L" Jackscrews.

Step 9: Special Gaskets

Omit letter when gaskets are not required.

G - Bulkhead gasket, style #0000G. Use only when mounting plate is specified.

F - Face gasket, style #0000F. Use with male insert only.

B - If both gasket #0000G and gasket #0000F are desired.

Check plant for availability on all gaskets.

Addition of "X" to code # indicates cable opening larger than std. See hoods for cable opening size.

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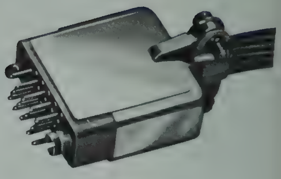
* Polarizing Position

SLE

.025 Diameter Contacts—3 Amps.

SRE

.030 Diameter Contacts—5 Amps



SME

.040 Diameter Contacts—7½ Amps.

Within this series, you'll find a standard size connector for which you can select one of three current ratings, 3, 5 or 7 1/2 amps. Compact and lightweight, they are especially suited for aircraft, instrumentation and portable equipment applications.

Specifications

Current Rating: SLE - 3 amps; SRE - 5 amps; SME - 7.5 amps.

No. of Contacts: 4, 5, 7, 9, 11, 14, 20, 26, 29, 34, 44, 50.

Pin Contacts: Brass, gold plated except for SLE which is phosphor bronze, gold plated.

Socket Contacts: Leaded commercial bronze, gold plated. For optional phosphor bronze contacts, consult factory.

Termination Types: .037 diameter solder cup will accept up to #22 AWG stranded wire. Solder cup adaptor (Part No. S45) will accept up to #20 AWG stranded wire. Dip solder terminations available for SRE Series, .030 Dia. Check Sales Department for available lengths.

Military versions of SRE are QPL'd to M28748/7 and M28748/8.

Electrical Data: The dielectric withstanding voltage is one minute electrification at 1000 VAC.

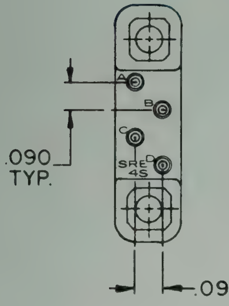
Dielectric: Green glass-filled diallyl phthalate per MIL-M-14, SDG-F.

Guides: Type NSS stainless steel, passivated or Type N Brass, gold plated.

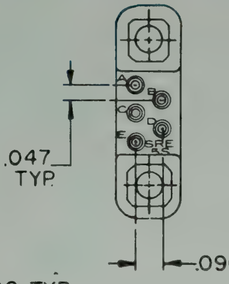
Jackscrews: Stainless steel, passivated. Aluminum knobs on the jackscrews are equipped with set screws, except JTU jackscrews which have stainless steel knobs equipped with groove pins.

Hoods: Anodized aluminum. May be applied to either plug or receptacle. Both top and side openings are available; for use with either guides or longturning jackscrews.

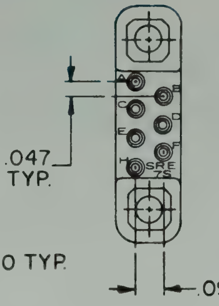
Mating Face of Female Moldings - Male Moldings Reverse Image



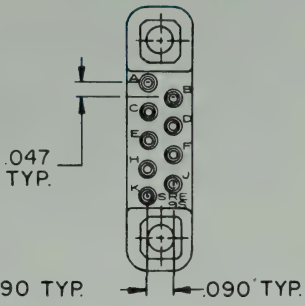
4 CONTACTS



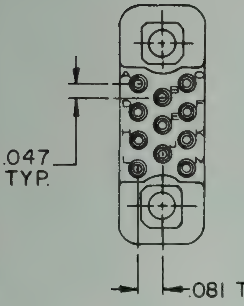
5 CONTACTS



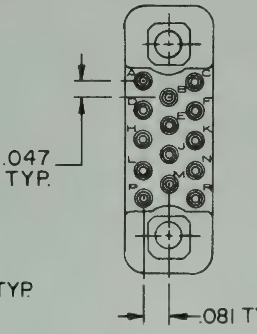
7 CONTACTS



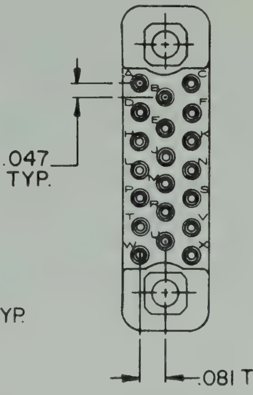
9 CONTACTS



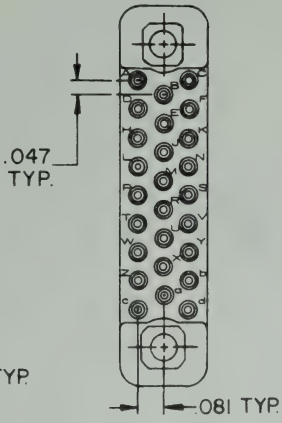
11 CONTACTS



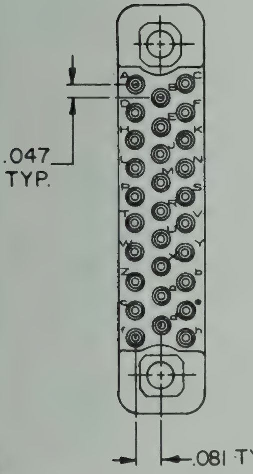
14 CONTACTS



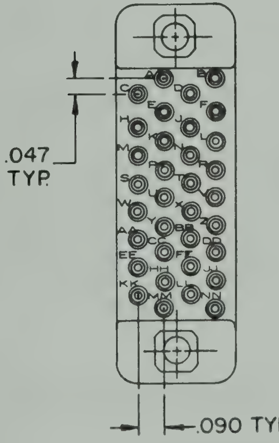
20 CONTACTS



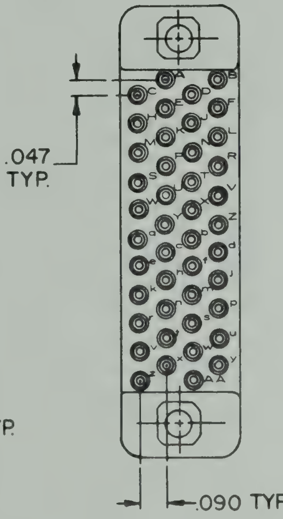
26 CONTACTS



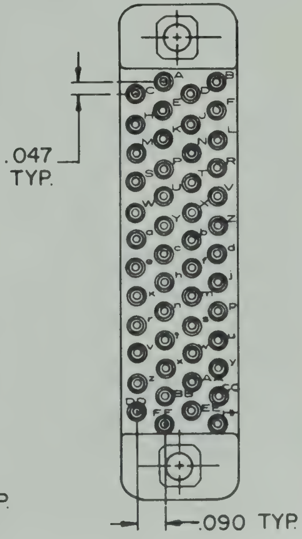
29 CONTACTS



34 CONTACTS



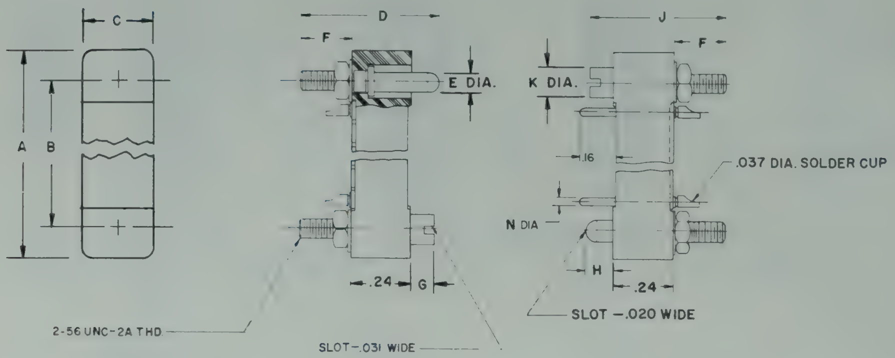
44 CONTACTS

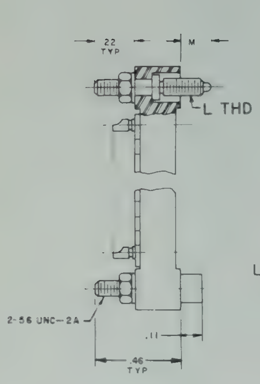


50 CONTACTS

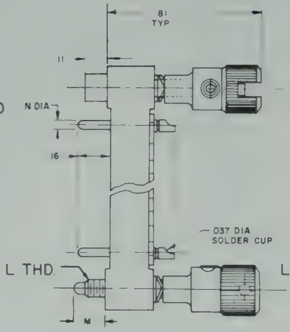
General Outline Drawings

Dimensions are for reference only and are subject to change

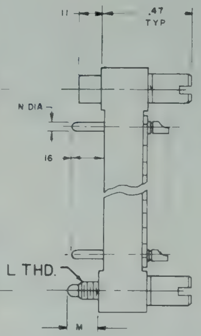




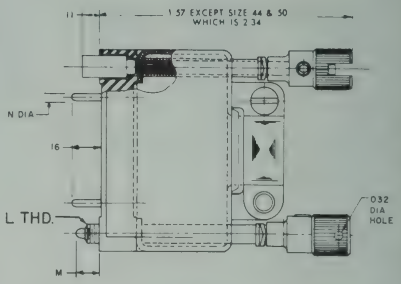
J JACKSCREWS



JT JACKSCREWS



JTU JACKSCREWS



JTC JACKSCREWS

No. of Contacts	A	B	C
4	.78	.562	.21
5	.70	.482	.21
7	.78	.562	.21
9	88	.656	.21
11	.78	.531	.28
14	88	.625	.28
20	1.06	.814	.28
26	1.25	1.000	.28
29	1.34	1.094	.28
34	1 25	1 032	39
44	1.48	1.267	.39
50	1 63	1.408	39

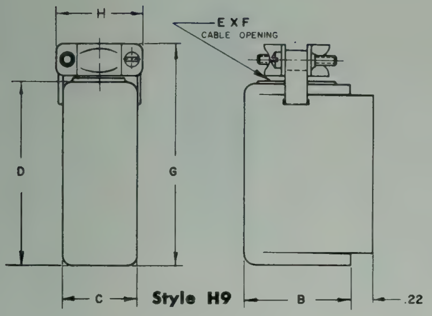
Series	D	E Dia.	F	G	H	J	K Dia.	L Thd	M	N Dia.
SLE	.62	.08	.24	.10	.14	.59	.125	2-56 UNC	.15	.025
SRE	.57	.09	.22	.11	.12	.57	.137	3-48 UNC*	.12	.030
SME	.62	.08	.24	.10	.14	.59	.125	2-56 UNC	.15	.040

*** 2-56 UNC Thd also available. See Step 7 of Ordering Chart.**

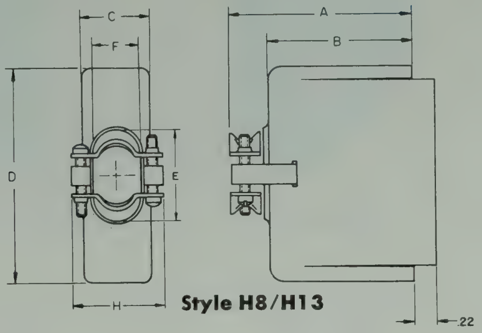
The NSS type socket is the standard guide supplied. It has good physical strength but may not be used electrically. This strength feature is particularly desirable for mounting connectors which will be subject to severe vibration in service.

Aluminum Hoods

Dimensions are for reference only and are subject to change



Style H9



Style H8/H13

Hood Catalog Numbers For Use With Guides And Jackscrews

Hood Style	Hood Cat. No. Guides Only	Hood Cat. No. JTC Jackscrews	Dimensions						Cable Open		No. of Contacts
			A	B	C	D	G	H	E	F	
H8	7-1044	7-1044	1.02	.72	.33	.78	...	.53	.28	.28	11
H8	7-1015	7-1055	1.80	1.50	.45	1.63	...	.63	1.19	.38	50
H9	7-1024	7-1064	...	.72	.33	.78	1.08	.53	.50	.22	11
H9	7-1035	7-1075	...	1.50	.45	1.63	1.92	.63	1.19	.38	50
H13	7-1002	7-1042	1.02	.75	.25	.78	...	.53	.22	.16	4&7
H13	7-1005	7-1045	1.02	.75	.34	.88	...	.53	.25	.16	14
H13	7-1006	7-1046	1.02	.75	.34	1.06	...	.53	.25	.16	20
H13	7-1007	7-1047	1.02	.75	.34	1.25	...	.53	.41	.25	26
H13	7-1011	7-1051	1.05	.75	.45	1.25	...	.63	.73	.38	34
NOT AVAILABLE											5
											9
H13	...	...	1.02	.75	.34	1.34	...	.53	.41	.25	29
NOT AVAILABLE											44

CODE ORDERING CHART

SRE	34	S		JTC	H13	

Step 1

Insert Code Series

SLE - .025 Dia. Contact
SME - .040 Dia. Contact
SRE - .030 Dia. Contact

Step 2

Number of Contacts

4,5,7,9,11,14,20,
26,29,34,44,50

Step 3

Contact Designation

P-Pin
S-Socket

Step 4

Special Contacts

This step to be used only when a special material, finish, or style is required. Omit when standard contacts are used. Consult sales department for proper designation.

Order Solder Cup Adapter for #20 AWG Stranded wire. Use Part No. S45. Must be ordered separately.

Step 5

Jackscrew Locks

J - Polarized Fixed Screw & Socket
JT - Polarized Short Turning Screw & Socket
JTC - Polarized Long Turning Screw & Socket
JTU - Polarized Short Turning Screw & Socket with Round Knob

NSS - Stainless Steel Cylindrical Polarized Guides
N - Gold plated Brass Polarized Guides

Step 6

Hoods - See Chart for Availability

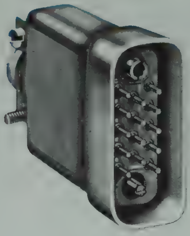
H8-Large Top Opening
H13 - Large Top Opening (High)
H9 - Large Side Opening
***When ordering hoods separately use 5 digit Catalog Number in Chart.**

Step 7

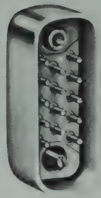
For Special 2-56 thds. add -859 suffix on Series SRE part numbers.

SRM Series

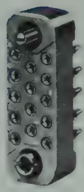
#20 Cts. .040" Dia. 7.5 Amps Sub. Min. Rect.



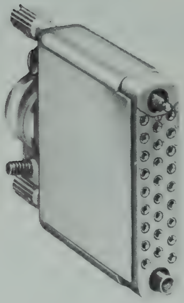
XSRM14PNSS2500



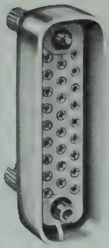
XSRM14PNSS1000



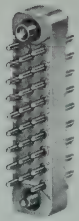
SRM14SNSS0000



SRM26SC0300



XSRM26SM2000



SRM26PF0000

SRM Series connectors are particularly suitable where current rating and voltage drop requirements dictate a larger wire size than can be used with other subminiature connectors.

Specifications

Current Rating: 7.5 Amps

No. Of Contacts: 5, 7, 11, 14, 20, 26, 34, 50, 75, 104

Pin Contacts: .040 dia. brass, gold plated.

Socket Contacts: Leaded commercial bronze, gold plated. For optional phosphor bronze contacts, consult factory.

Termination Types: .048 dia. solder cups will accept up to #20 AWG stranded wire. Dip Solder Contacts, .030 dia. Check Sales Dept. for available lengths.

Electrical Data: Minimum dielectric withstanding voltage is one minute at 1500 VAC when tested in accordance with MIL-C-28748.

Dielectric: Glass-filled diallyl phthalate per MIL-M-14, SDG-F.

Guides: NSS Type, stainless steel; or N Type, brass.

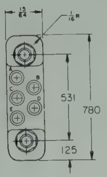
Jackscrews: Stainless steel with knurled and slotted aluminum knobs.

Hoods: Anodized aluminum. May be applied to either plug or receptacle. Both top and side openings are available.

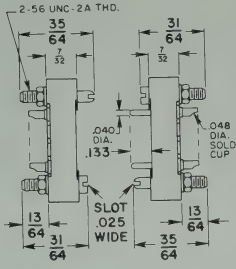
Shells: Polarized shells are available. SRM connector assembled with a shell becomes XSRM.

Contact Arrangements and Dimensions

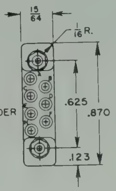
Dimensions are for reference only and are subject to change



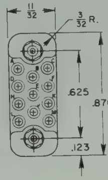
SRM5P-NSS



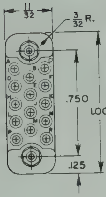
SRM7S-NSS



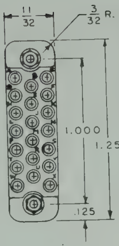
SRM7P-NSS



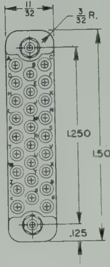
SRM11P-NSS



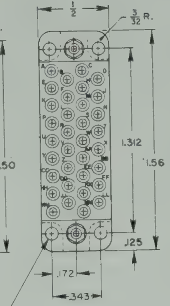
SRM14P-NSS



SRM20P-NSS

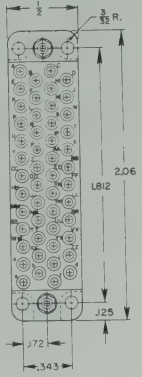


SRM26P-NSS

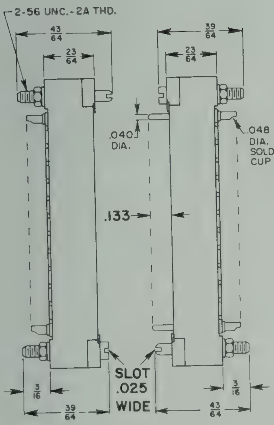


MOUNTING HOLES FOR NO. 2 MACHINE SCREWS (TYP.)

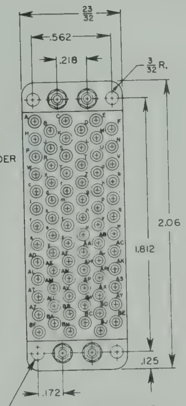
SRM34P-NSS



SRM50P-NSS

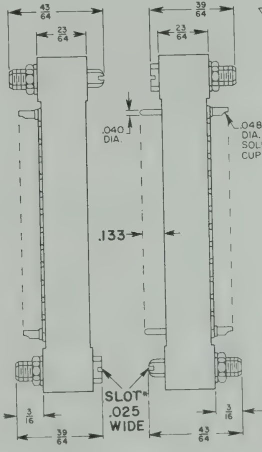


SRM75S-NSS

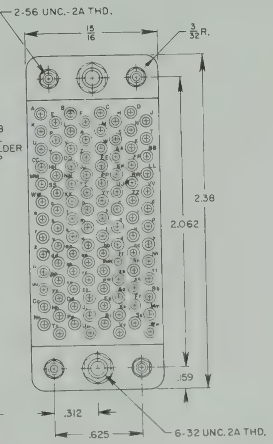


MOUNTING HOLES FOR NO.2 MACHINE SCREWS (TYPICAL)

SRM75P-NSS



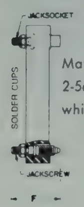
SRM104S-NSS



SRM104P-NSS

*Center guides are .038 x .062

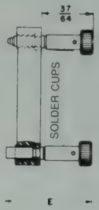
Jackscrews, Jacksockets and Knobs



Mating thread size
2-56 UNC except size 104
which is 6-32 UNC.

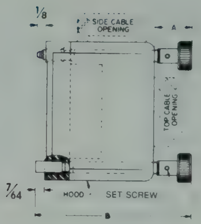
Connector with
fixed Jackscrews
Code designation: F

AND



Mating connector half with
turnable Jackscrews-with-Knobs
Code designation: M

OR



Mating connector half with Hood and
turnable Long Jackscrews-with-Knobs
Code designation: C-0300, C-0400

Jackscrew locking device assures positive coupling of engaged connectors to prevent accidental disconnecting from vibration or physical shock. It also aids easy connection and separation of connector plug and receptacle. Mounted connector-half houses one non-turnable fixed jackscrew and jacksocket to insure connector polarization. Mating-half houses one of the two types of turning jackscrew and jacksocket (M or C).

Standard Connector Size	Long Turning Code "C"		Short Turning Code "M"	Fixed Jacks Code "F"
	0300	0300X		
	A	B	E	F
SRM 5	...	...	$^{59}/_{64}$	$^{17}/_{32}$
SRM 7	...	$1^{9}/_{32}$	$^{59}/_{64}$	$^{17}/_{32}$
SRM 11	...	$1^{27}/_{32}$	$^{59}/_{64}$	$^{17}/_{32}$
SRM 14	...	$1^{27}/_{32}$	$^{59}/_{64}$	$^{17}/_{32}$
SRM 20	...	$2^{3}/_{32}$	$^{59}/_{64}$	$^{17}/_{32}$
SRM 26	$^{9}/_{16}$	$2^{3}/_{32}$	$^{59}/_{64}$	$^{17}/_{32}$
SRM 34	$^{9}/_{16}$	$2^{3}/_{32}$	$^{59}/_{64}$	$^{17}/_{32}$
SRM 50	$^{9}/_{16}$	$2^{3}/_{32}$	$^{59}/_{64}$	$^{17}/_{32}$
SRM 75	$^{9}/_{16}$	$2^{15}/_{64}$	$1^{1}/_{16}$	$^{43}/_{64}$
SRM 104	$^{9}/_{16}$	$2^{51}/_{64}$	$1^{1}/_{16}$	$^{43}/_{64}$

Specifications

Turnable jackscrew-jacksocket combination (M or C) assembles on either Plug or Receptacle, the mating connector-half (either Receptacle or Plug) must then contain fixed jackscrew-jacksocket combination (F).

Both short and long turning jackscrews (M and C) have knurled and slotted knobs for locking by hand or screwdriver. Knob is assembled on shaft with a socket setscrew. Safety wiring of engaged halves is achieved by using the through-holes.

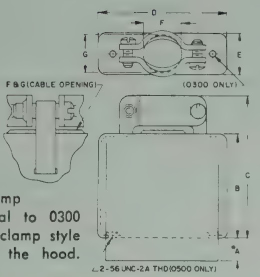
Drawings show extension of standard knobs beyond hood.

Locking Device		Specifications
Part		Code Letter
Jackscrew Jacksocket	Fixed	F
Jackscrew Jacksocket	Short Turnable	M
Jackscrew Jacksocket	Long Turnable	C
Knob	Standard	—

NOTE: Jackscrews and jacksockets are stainless steel with passivating dip. Knob is anodized aluminum.

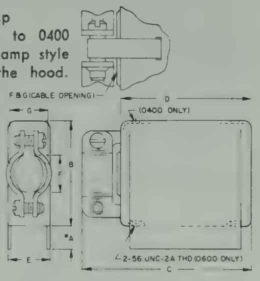
SRM Formed Aluminum Hoods

Dimensions are for reference only and are subject to change.



0300X Cable Clamp
0300X Hood is identical to 0300 Hood except for cable clamp style and cable opening in the hood.

0400X Cable Clamp
0400X Hood is identical to 0400 Hood except for cable clamp style and cable opening in the hood.



TOP CABLE OPENING HOODS

Code No.	Dimensions					Cable Open'g		Wt. Oz.
	A	B	C	D	E	F	G	
SRM 7-0300X	5/32	3/8	43/64	7/8	19/64	23/64	15/64	
SRM 7-0500	5/32	3/8	11/16	7/8	19/64	19/64	15/64	
SRM 7-0500X	5/32	3/8	43/64	7/8	19/64	23/64	15/64	
SRM 11-0300X	5/32	15/16	1 15/64	7/8	13/32	15/32	11/32	
SRM 11-0500	5/32	15/16	1 1/4	7/8	13/32	7/16	11/32	
SRM 11-0500X	5/32	15/16	1 15/64	7/8	13/32	15/32	11/32	
SRM 14-0300X	5/32	15/16	1 15/64	1	13/32	1/2	11/32	
SRM 14-0500	5/32	15/16	1 1/4	1	13/32	7/16	11/32	
SRM 14-0500X	5/32	15/16	1 15/64	1	13/32	1/2	11/32	
SRM20-0300X	5/32	1 3/16	1 43/64	1 1/4	13/32	23/32	11/32	
SRM 20-0500	5/32	1 3/16	1 5/8	1 1/4	13/32	11/32	23/32	
SRM20-0500X	5/32	1 3/16	1 43/64	1 1/4	13/32	23/32	11/32	
SRM26-0300	5/32	1 3/16	1 5/8	1 1/2	13/32	9/16	11/32	
SRM26-0300X	5/32	1 3/16	1 5/8	1 1/2	13/32	29/32	11/32	
SRM26-0500	5/32	1 3/16	1 5/8	1 1/2	13/32	9/16	11/32	
SRM26-0500X	5/32	1 3/16	1 5/8	1 1/2	13/32	29/32	11/32	
SRM34-0300	5/32	1 3/16	1 5/8	1 9/16	9/16	5/8	1/2	
SRM34-0300X	5/32	1 3/16	1 43/64	1 9/16	9/16	13/16	1/2	
SRM34-0500	5/32	1 3/16	1 5/8	1 9/16	9/16	5/8	1/2	
SRM34-0500X	5/32	1 3/16	1 43/64	1 9/16	9/16	13/16	1/2	
SRM50-0300	5/32	1 3/16	1 5/8	2 1/16	9/16	21/32	1/2	
SRM 50-0300X	5/32	1 3/16	1 43/64	2 1/16	9/16	7/8	1/2	
SRM50-0500	5/32	1 3/16	1 5/8	2 1/16	9/16	21/32	1/2	
SRM50-0500X	5/32	1 3/16	1 43/64	2 1/16	9/16	7/8	1/2	
SRM75-0300	5/32	1 3/16	1 5/8	2 1/16	25/32	5/8	DIA.	
SRM75-0300X	5/32	1 3/16	1 23/32	2 1/16	25/32	29/32	23/32	
SRM75-0500	5/32	1 3/16	1 5/8	2 1/16	25/32	5/8	DIA.	
SRM75-0500X	5/32	1 3/16	1 23/32	2 1/16	25/32	29/32	23/32	
SRM104-0300	5/32	1 3/4	2 9/32	2 3/8	1	1 1/16	15/16	
SRM104-0300X*	5/32	1 3/4	2 33/64	2 3/8	1	55/64	1 23/64	
SRM104-0500	5/32	1 3/4	2 9/32	2 3/8	1	1 1/16	15/16	
SRM104-0500X*	5/32	1 3/4	2 33/64	2 3/8	1	55/64	1 23/64	

Hoods may be ordered separately (see code numbers in above tables) or assembled on connectors. If desired assembled to connectors, see Code Numbering System for complete catalog number.

Prefix hood code numbers with "X" for use with shells.

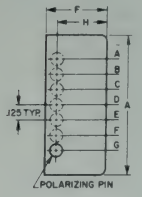
SIDE CABLE OPENING HOODS

Code No.	Dimensions					Cable Open'g		Wt. Oz.
	A	B	C	D	E	F	G	
SRM11-0400	5/32	15/16	1 3/16	7/8	13/32	7/16	11/32	
SRM11-0400X	5/32	15/16	1 11/64	7/8	13/32	11/32	15/32	
SRM11-0600	5/32	15/16	1 3/16	7/8	13/32	7/16	11/32	
SRM11-0600X	5/32	15/16	1 11/64	7/8	13/32	11/32	15/32	
SRM14-0400	5/32	15/16	1 5/16	1	13/32	7/16	11/32	
SRM14-0400X	5/32	15/16	1 19/64	1	13/32	1/2	11/32	
SRM14-0600	5/32	15/16	1 5/16	1	13/32	7/16	11/32	
SRM14-0600X	5/32	15/16	1 19/64	1	13/32	1/2	11/32	
SRM20-0400	5/32	1 3/16	1 11/16	1 1/4	13/32	9/16	11/32	
SRM20-0400X*	5/32	1 3/16	1 47/64	1 1/4	13/32	23/32	11/32	
SRM20-0600	5/32	1 3/16	1 11/16	1 1/4	13/32	9/16	11/32	
SRM20-0600X*	5/32	1 3/16	1 47/64	1 1/4	13/32	23/32	11/32	
SRM26-0400	5/32	1 3/16	1 15/16	1 1/2	13/32	9/16	11/32	
SRM26-0400X	5/32	1 3/16	1 15/16	1 1/2	13/32	29/32	11/32	
SRM26-0600	5/32	1 3/16	1 15/16	1 1/2	13/32	9/16	11/32	
SRM26-0600X	5/32	1 3/16	1 15/16	1 1/2	13/32	29/32	11/32	
SRM34-0400	5/32	1 3/16	2	1 9/16	9/16	5/8	1/2	
SRM34-0400X	5/32	1 3/16	2 1/32	1 9/16	9/16	13/16	1/2	
SRM34-0600	5/32	1 3/16	2	1 9/16	9/16	5/8	1/2	
SRM34-0600X	5/32	1 3/16	2 1/32	1 9/16	9/16	13/16	1/2	
SRM50-0400	5/32	1 3/16	2 1/2	2 1/16	9/16	21/32	1/2	
SRM50-0400X	5/32	1 3/16	2 17/32	2 1/16	9/16	7/8	1/2	
SRM50-0600	5/32	1 3/16	2 1/2	2 1/16	9/16	21/32	1/2	
SRM50-0600X	5/32	1 3/16	2 17/32	2 1/16	9/16	7/8	1/2	
SRM75-0400	5/32	1 3/16	2 1/2	2 1/16	25/32	5/8	DIA.	
SRM75-0400X	5/32	1 3/16	2 37/64	2 1/16	25/32	29/32	23/32	
SRM75-0600	5/32	1 3/16	2 1/2	2 1/16	25/32	5/8	DIA.	
SRM75-0600X	5/32	1 3/16	2 37/64	2 1/16	25/32	29/32	23/32	
SRM104-0400	5/32	1 3/4	2 29/32	2 3/8	1	1 1/16	15/16	
SRM104-0400X	5/32	1 3/4	2 29/32	2 3/8	1	1 7/16	15/16	
SRM104-0600	5/32	1 3/4	2 29/32	2 3/8	1	1 1/16	15/16	
SRM104-0600X	5/32	1 3/4	2 29/32	2 3/8	1	1 7/16	15/16	

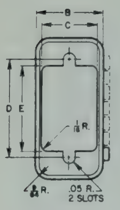
Note: This dimension does not apply when shells are used. Tab is removed.
* Request availability information.

Plug Shells for Use with XSRM Connectors

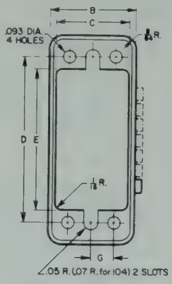
Dimensions are for reference only and are subject to change.



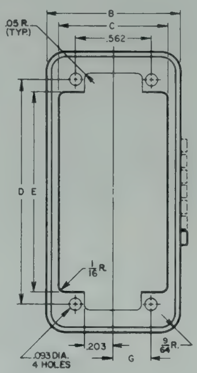
For ALL XSRM Config.



For XSRM 7 to 26

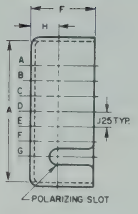


For XSRM 34, 50 and 104

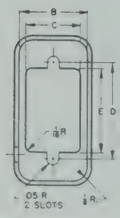


For XSRM 75

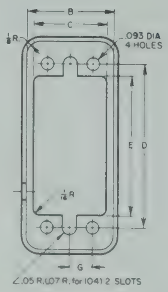
Receptacle Shells for Use with XSRM Connectors



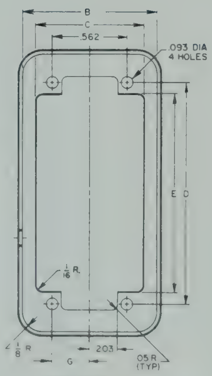
For All XSRM Config.



For XSRM 7 to 26



For XSRM 34, 50 and 104



For XSRM 75

Important Note When Ordering Plug and Receptacle Shells

The shell part numbers given in table show an asterisk (*) where the code letter for the desired polarizing position belongs - example: XSRM14-2*000 becomes XSRM14-2B000 when polarization in position "B" is desired. Specify the same position on the mating shell. For non-polarized shells, merely omit this position, e.g. XSRM14-2000.

Material: Shells are .031 thick aluminum, anodized for protection against corrosion. Either style - plug or receptacle - may be used to house a female insert, thus allowing "live" socket contacts to be cable or panel mounted. Shells also provide a means by which connector polarization is accomplished - receptacle shell is slotted for engaging a polarizing pin on plug shell. Non-polarized shells have the slot and pin omitted.

PLUG SHELLS

Shell Part No. (if ordered separately)	Dimensions							
	A	B	C	D	E	F	G	H
XSRM7-1*000	31/32	21/64	15/64	.625	17/32	7/16	...	5/16
XSRM11-1*000	31/32	7/16	11/32	.625	17/32	7/16	...	5/16
XSRM14-1*000	1 7/64	7/16	11/32	.750	43/64	7/16	...	5/16
XSRM20-1*000	1 11/32	7/16	11/32	1.00	15/16	7/16	...	5/16
XSRM26-1*000	1 39/64	7/16	11/32	1.250	1 5/32	7/16	...	5/16
XSRM34-1*000	1 21/32	39/64	1/2	1.312	1 5/32	7/16	.172	5/16
XSRM50-1*000	2 5/32	53/64	1/2	1.812	1 21/32	7/16	.172	5/16
XSRM75-1*000	2 5/32	13/16	23/32	1.812	1 21/32	37/64	.281	29/64
XSRM104-1*000	2 31/64	1 3/64	15/16	2.062	1 13/16	37/64	.312	29/64

RECEPTACLE SHELLS

Shell Part No. (if ordered separately)	Dimension							
	A	B	C	D	E	F	G	H
XSRM7-2*000	1	23/64	15/64	.625	17/32	7/16	...	3/16
XSRM11-2*000	1	15/32	11/32	.625	17/32	7/16	...	3/16
XSRM14-2*000	1 1/8	15/32	11/32	.750	43/64	7/16	...	3/16
XSRM20-2*000	1 3/8	15/32	11/32	1.00	15/16	7/16	...	3/16
XSRM26-2*000	1 5/8	15/32	11/32	1.250	1 5/32	7/16	...	3/16
XSRM34-2*000	1 11/16	5/8	1/2	1.312	1 5/32	7/16	.172	3/16
XSRM50-2*000	2 3/16	5/8	1/2	1.812	1 21/32	7/16	.172	3/16
XSRM75-2*000	2 3/16	27/32	23/32	1.812	1 21/32	37/64	.281	21/64
XSRM104-2*000	2 1/2	1 1/16	15/16	2.062	1 13/16	37/64	.312	21/64

Shell Size	Available Polarization Positions
7	A,B,C,D
11	A,B,C,D
14	A,B,C,D,E
20	A,B,C,D,E,F,G
26	
34	
50	
75	
104	

Ordering Information - Code Numbering

Specify complete plug or receptacle by following Steps 1 through 10
Omit steps not required

1	2	3	4	5	6	7	8	9	10
SRM	26	P		C	0		3	0	0

Step 1
Insert Series Code
SRM - When protective shells are not required.
XSRM - When protective shells are required.

Step 2
Number of Contacts
5, 7, 11, 14, 20, 26, 34, 50, 75 and 104.

Step 3
Contact Designation:
P - Pin
S - Socket

Step 4
Type of Contact:
This step to be used only when a special material, finish, or style is required. Omit when standard contacts are used. Consult Sales Department for proper designation of Dip Solder Terminations.

Step 5
Guides
NSS - Standard stainless steel cylindrical guides.
N - Brass cylindrical guides. Plated, gold over copper.

Jackscrews and Jacksockets
C - Polarized long turning jackscrew and jacksocket for use with hoods.
F - Polarized fixed jackscrew and jacksocket.
M - Polarized short turning jackscrew and jacksocket.
J -Non-polarized short turning jackscrews.
L - Non-polarized long turning jackscrews.
R - Non-polarized fixed jacksockets.

Step 6
Shell Type
0 - Shell not required.
1 - Plug shell.
2 - Receptacle shell.

Step 7
Polarization Position
A, B, C, D, E, F, or G. Omit letter when polarization of shell is not required.

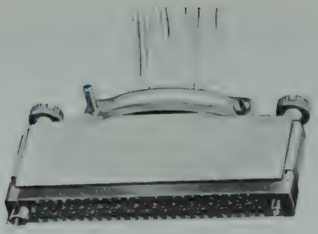
Step 8
Hoods
0 - When no hood required.
3 - Standard size top cable opening ["X" also].
4 - Standard size side cable opening. If extra large cable opening is desired, add "X" to end of catalog number.
5 - Top opening hood for use with guides.
6 - Side opening hood for use with guides.

Step 9
0 - Standard construction.

Step 10
Insert Construction
0 - Standard construction.

42 Series

#22 Cts. .030" Dia. 5 Amps **Panel Mount Min.**



42-4574S

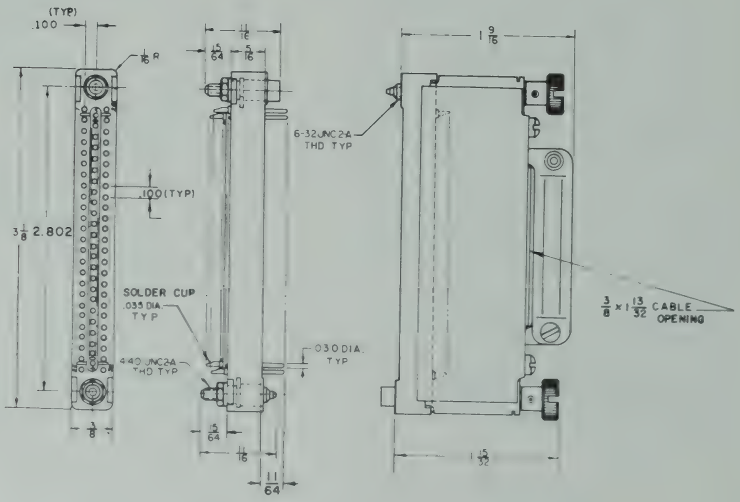
42-3674P

With two rows of 25 contacts each and a center row of 24 positions for either contacts or polarization pins, the 42 Series connectors offer diverse flexibility for many applications.

Dimensions and Code Ordering Information

Polarization Available in Any Combination of Twenty Four Center Row Positions

Dimensions are for reference only and are subject to change. Outline drawings on request.



Specifications

Current Rating: 5.0 Amps

No. of Contacts: 50, 74

Pin Contacts: .030 dia. gold plated brass conforming to specification QQ-B-626

Socket Contacts: Gold plated phosphor bronze.

Termination Types: Clip-on solder type contacts will accommodate up to #22 AWG stranded wire.

Electrical Data: Minimum dielectric withstanding voltages are one minute electrification at 1200 VAC.

Dielectric: Asbestos filled diallyl phthalate per MIL-M-14E, MDG Maroon.

Polarization: Polarizing pins may be used in any combination in center row.

Jackscrews: Passivated stainless steel, anodized aluminum knobs.

Hoods: Anodized aluminum. Top opening only.

Code Ordering

42 - 36 74 P - *

SERIES
Panel Mounted
Miniature Connector

HARDWARE OR ACCESSORIES
34 - Molding
no hardware
35 - Molding
with guides
36 - Molding
with fixed jackscrew set
52 - Molding
with short turning jackscrew set
53 - Molding
with long turning jackscrew set
54 - Molding
with hood and guides
55 - Molding
with hood and long turning
jackscrew set

NUMBER OF CONTACTS
50
74

CONTACTS
P - Pin contacts

***POLARIZING POSITION**

Code Ordering

42 - 45 74 S - *

SERIES
Panel Mounted
Miniature Connector

HARDWARE OR ACCESSORIES

40 - Molding, no hardware
41 - Molding with guides
42 - Molding with short turning
jackscrew set, no hood
43 - Molding with long turning jackscrew
set, no hood
44 - Molding with guides and Hood (top
opening)
45 - Molding with long turning jackscrew
set and hood (top opening)
46 - Molding with fixed jackscrews

NUMBER OF CONTACTS
50
74

CONTACTS
S- Socket Contacts

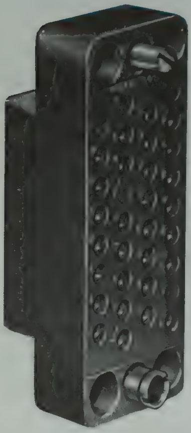
***POLARIZING POSITION**

Specify polarizing positions required. Positions top to bottom are: A, B, C, D, E, F, H, J, K, L, M, N, P, R, S, T, U, V, W, X, Y, Z, a, b.

*Polarization is available in any combination of the 24 center positions shown in the line drawing. When 74 contacts are required no polarization other than jackscrews is available.

MRAC Series

Removable Contact Rect.



MRAC 34S-G

MRAC 34P-G

The MRAC Series is an important extension of the MRA line featuring a variety of crimp and solder removable contact styles. Except for body thickness, they are similar and interchangeable with the MRA Series.

Removable contacts offer a substantial saving of time, labor and a great flexibility in the choice of circuitry. The contact is easily removed with the hand tool depicted and then placed by hand or with a simple insertion tool.

CATALOG NO.	
MRAC 9P	MS 14007-1
MRAC 9S	MS 14006-1
MRAC 14P	MS 18174-1
MRAC 14S	MS 18175-1
MRAC 20P	MS 18176-1
MRAC 20S	MS 18177-1
MRAC 26P	MS 14008-1
MRAC 26S	MS 14005-1
MRAC MS34P	MS 18178-1
MRAC MS34S	MS 18179-1
MRAC 42P	MS 18180-1
MRAC 42S	MS 18181-1
MRAC 50P	MS 18182-1
MRAC 50S	MS 18183-1
MRAC 66P	MS 18184-1
MRAC 66S	MS 18185-1
MRAC 75P	MS 18187-1
MRAC 75S	MS 18188-1
MRAC 104P	MS 18189-1
MRAC 104S	MS 18190-1

Specifications

Current Rating: Up to 13 amps

No. of Contacts: 9, 14, 18, 20, 26, 34, 41, 42, 50, 66, 75, 104

Contacts: Must be ordered separately. Select from crimp, solder, dip solder, shielded or Wire-Wrap termination contacts. See 100 Series contact section.

Contact Identification: Standard contact identification is alphabetical except for MRAC66 and 75 which have numerical identification. To order numerical identification on MRAC 34, 50 or 104, specify MNAC**P or S.

Electrical Data: Meets high potential performance of MIL-C-28748. The dielectric withstanding voltage is one minute electrification at 2000 VAC (sea level).

Dielectric: Standard material is diallyl phthalate, per MIL-M-14, SDG-F, color gray.

Military Versions are QPL'd to M28748/3 and M28748/4.

Qualification: MIL-C-28748.

Polarization: Gold plated guides provide positive polarization. Polarized jackscrews of passivated stainless steel with anodized aluminum knobs are available.

Hoods: Anodized aluminum. May be applied to either plug or receptacle. Both top and side opening hoods available.

FEATURES

Closed Entry Removable Socket Contact and Pin Contacts.

Connector Inserts with 9 to 104 Contacts.

Quick Crimp ... Snap in Place!

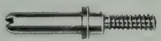
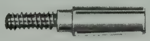
To remove ... insert removal tool - "Push Out" Contact!

PHYSICAL DATA

Plug Code No.	Receptacle Code No.	No. of Contacts	Wt. in Ozs. w/o Contacts	
			Plug	Rec.
MRAC9P	MRAC9S	9	.15	.17
MRAC14P	MRAC14S	14	.17	.2
MRAC18P	MRAC18S	18	.17	.2
MRAC20P	MRAC20S	20	.17	.25
MRAC26P	MRAC26S	26	.42	.67
MRAC34P	MRAC34S	34	.42	.67
MRAC41P	MRAC41S	41	.5	.7
MRAC42P	MRAC42S	42	.5	.7
MRAC50P	MRAC50S	50	.6	.85
MRAC66P	MRAC66S	66	.7	1.05
MRAC75P	MRAC75S	75	.9	1.3
MRAC104P	MRAC104S	104	1.2	1.78

"Recognized under the component program of the Underwriters Laboratories, Inc." (E31650)

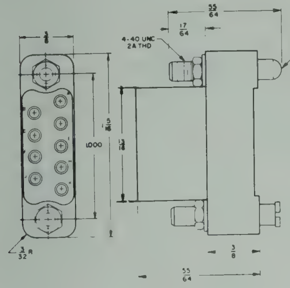
TYPES OF GUIDE SOCKETS AVAILABLE

Guide Socket Code Letter	Actual Size Photo	
G	 For General Use Phosphor Bronze	 Standard Guide Pin mates with all types Brass
K	 For High Electrical Conductivity Beryllium Copper	
N	 For Extra Mechanical Strength Brass	

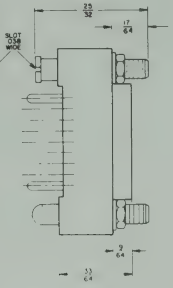
How To Order: To obtain "K" or "N" guides in place of the standard "G" type, substitute the desired socket style code letter ("K" or "N") for "G" in both the Plug and Receptacle Code Numbers.

Contacts Must Be Ordered Separately

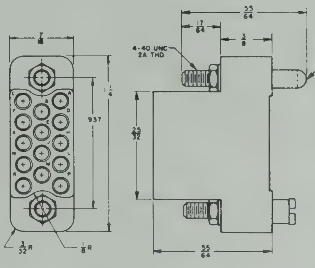
Code numbers include standard G type guides. If guides are not desired omit G in code numbers. However, it is recommended that guides be used wherever possible for positive polarization and for protection of contacts except for the MRAC 104 where the jackscrew locking device is recommended.



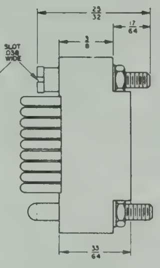
MRAC 9S-G



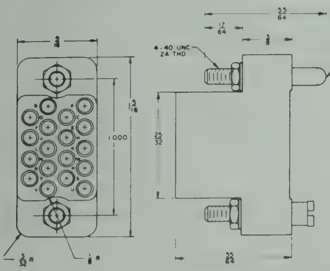
MRAC 9P-G



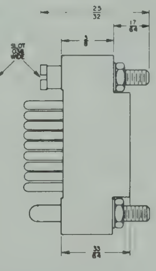
MRAC 14S-G



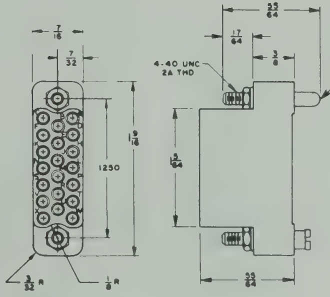
MRAC 14P-G



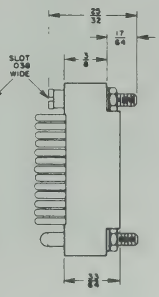
MRAC 18S-G



MRAC 18P-G



MRAC 20S-G

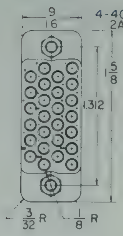


MRAC 20P-G

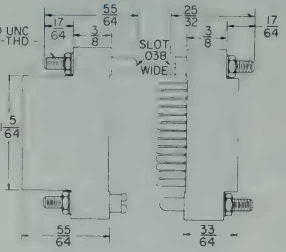
Contact Arrangements and Dimensions

Dimensions are for reference only and are subject to change.

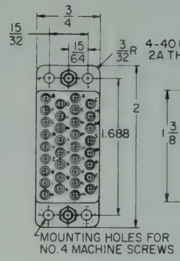
Contacts Must Be Ordered Separately



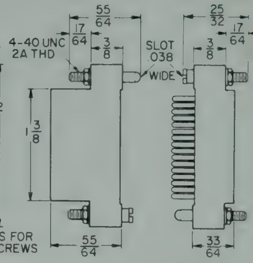
MRAC 26S-G



MRAC 26P-G



MRAC 34S-G *



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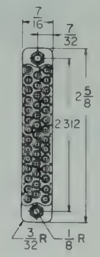
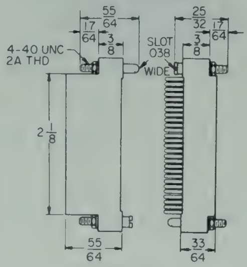
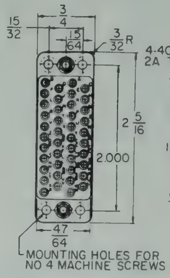


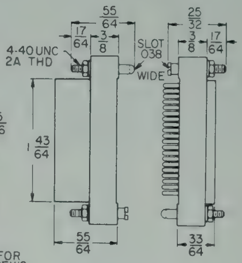
MRAC 41S-G



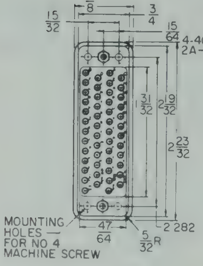
MRAC 41P-G



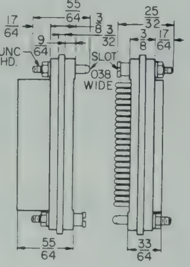
MRAC 42S-G



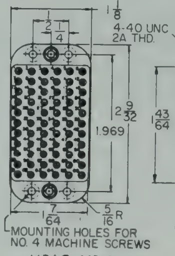
MRAC 42P-G



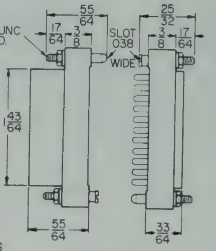
MRAC 50S-G *



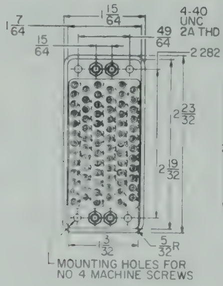
MRAC 50P-G *



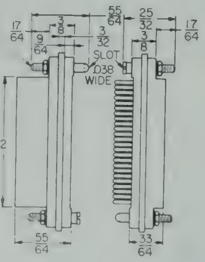
MRAC 66S-G



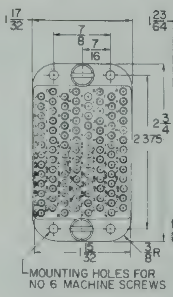
MRAC 66P-G



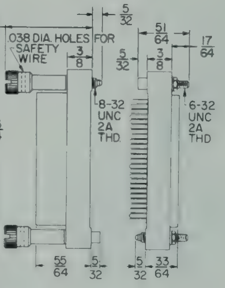
MRAC 75S-G



MRAC 75P-G



MRAC 104S-JT *



MRAC 104P-J *

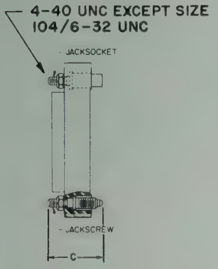
Mounting Note: Connectors MRAC 26, MRAC 20 and smaller, use guides for mounting in a hood or on a panel. Connectors MRAC 34, MRAC 42, MRAC 50, MRAC 66, and MRAC 75 use four #4 machine screws, in addition to guides, for mounting in a hood or on a panel. Guides are not recommended for use with MRAC 104. MRAC 104 uses four #6 machine screws for mounting.

*For numerical contact identification instead of alphabetical, order MNAC.________P or S available in sizes 34, 50 and 104. Example MNAC 34P. MRAC 66 and 75 have numerical contact identification as standard.

Jackscrews and Jacksockets

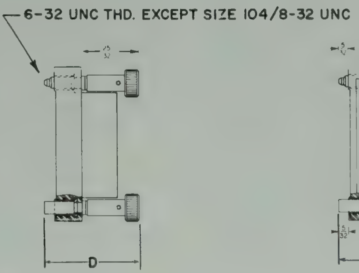
Dimensions are for reference only and are subject to change

Polarized jackscrews give the ease and assurance of threaded positive coupling. The actuating side consists of two turnable screws, one male and one female, each with knurled and slotted knobs. On the mating half are the two fixed screws required to complete the locking action. When mated, the jackscrews may be locked with a safety wire through the hole in the self-locking pin (in the jackscrew shaft).



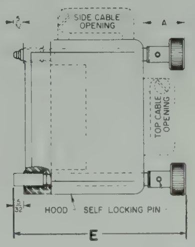
Connector with fixed Jackscrews
Code designation: J

AND



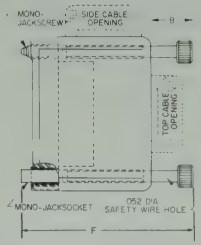
Mating connector half with turnable Jackscrews-with-Knobs
Code designation: JT

OR



Mating connector half with Hood and turnable Long Jackscrews-with-Knobs
Code designation: JTC H, JTC H1

OR



Mating connector half with Hood and turnable Monojacks
Code designation: JTDH, JTDH1

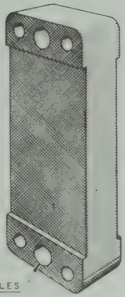
The drawings show the extension of the jackscrew knobs beyond a typical MRAC connector and beyond the connector-and-hood assembly (center drawings). Dimensions given are constant for all connectors except as noted. Other dimensions applicable to various hood styles are detailed in the chart below.

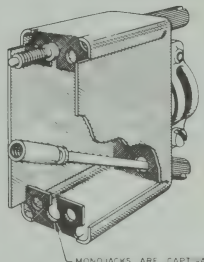
CONNECTOR SIZE	DIMENSION "A"					DIMENSION "B"				C	D	DIMENSION "E"					DIMENSION "F"			
	H	H1	H8	H9	H13	H	H1	H8	H9			H	H1	H8	H9	H13	H	H1	H8	H9
MRAC9	...	$\frac{19}{32}$	...	...	$\frac{19}{32}$	...	...	...	...	$\frac{51}{64}$	$1\frac{5}{16}$	...	$2\frac{13}{32}$	...	...	$2\frac{13}{32}$	...	...	...	...
MRAC14	...	$\frac{19}{32}$	...	...	$\frac{19}{32}$	...	...	...	...	$\frac{51}{64}$	$1\frac{5}{16}$	...	$2\frac{13}{32}$	...	...	$2\frac{13}{32}$	...	...	...	...
MRAC18	...	$\frac{19}{32}$	...	...	$\frac{19}{32}$	...	...	...	...	$\frac{51}{64}$	$1\frac{5}{16}$	...	$2\frac{13}{32}$	...	...	$2\frac{13}{32}$	...	...	...	...
MRAC20	...	$\frac{19}{32}$	...	...	$\frac{19}{32}$	...	...	...	...	$\frac{51}{64}$	$1\frac{5}{16}$	...	$2\frac{13}{32}$	...	...	$2\frac{13}{32}$	...	...	...	...
MRAC26	$\frac{51}{64}$	$\frac{19}{32}$	$\frac{19}{32}$	$\frac{19}{32}$	...	...	...	...	...	$\frac{51}{64}$	$1\frac{5}{16}$	$2\frac{39}{64}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	...	...	...	...	...
MRAC34	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	...	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{51}{64}$	$1\frac{5}{16}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	...	...	...	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$
MRAC41	$\frac{5}{8}$	$\frac{5}{8}$	...	...	...	...	...	...	...	$\frac{51}{64}$	$1\frac{5}{16}$	$2\frac{13}{32}$	$2\frac{13}{32}$	...	...	...	...	...	...	...
MRAC42	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	...	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{51}{64}$	$1\frac{5}{16}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	...	...	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$
MRAC50	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	...	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{37}{64}$	$\frac{51}{64}$	$1\frac{5}{16}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	...	...	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$
MRAC66	$\frac{11}{16}$	...	...	$\frac{11}{16}$	...	$\frac{1}{2}$	...	...	$\frac{1}{2}$	$\frac{51}{64}$	$1\frac{5}{16}$	$2\frac{15}{32}$	...	...	$2\frac{13}{32}$	...	$2\frac{3}{16}$	...	...	$2\frac{3}{16}$
MRAC75	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	...	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{51}{64}$	$1\frac{5}{16}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	...	...	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$	$2\frac{13}{32}$
MRAC104	$\frac{1}{2}$	...	...	$\frac{43}{64}$	...	$\frac{1}{2}$	..	..	$\frac{1}{2}$	$\frac{51}{64}$	$1\frac{33}{64}$	$3\frac{27}{64}$	...	...	$3\frac{27}{64}$	...	$3\frac{1}{4}$	...	...	$3\frac{1}{4}$

NEW MONOJACKS ASSEMBLE, DISASSEMBLE WITH REMARKABLE EASE AND SPEED

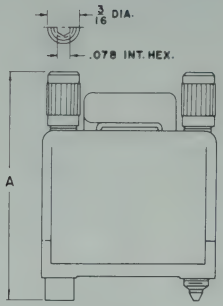
To free the connector from the hood, simply remove four screws. Monojacks may be used on miniature rectangular connectors with from 34 to 104 contacts and with molds featuring guide hole and two mounting holes on both ends.

Molds have 2 center thru holes and 4 mounting holes.

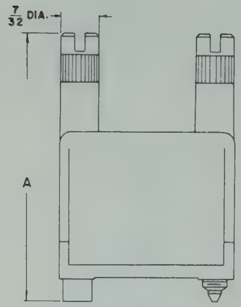

MOLDINGS HAVE STRAIGHT THRU HOLES


MONOJACKS ARE CAPTIVATED IN KEYHOLE SLOT OF HOOD AS SHOWN ABOVE
WHEN USING SHELLS, MONOJACKS ARE CAPTIVATED IN KEYHOLE OF SHELL AND CLEARANCE HOLES ARE PLACED IN HOODS

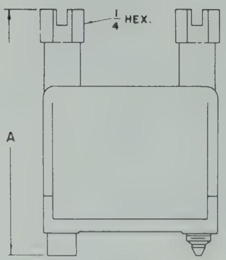
Jackscrew Locking For Series MRAC Connectors



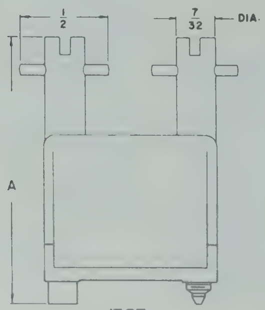
JTCW



JTCU



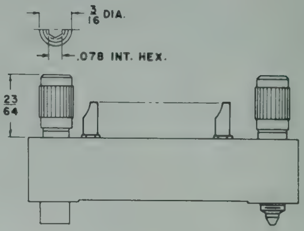
JTCX



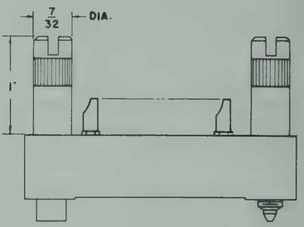
JTCZ

Size	HOODS				
	H	H1	H8	H9	H13
DIMENSION A—TYPE JTCW					
9	–	$2\frac{7}{32}$	–	–	$2\frac{7}{32}$
14	–	$2\frac{7}{32}$	–	–	$2\frac{7}{32}$
18	–	$2\frac{7}{32}$	–	–	$2\frac{7}{32}$
20	–	$2\frac{7}{32}$	–	$2\frac{7}{32}$	$2\frac{7}{32}$
26	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	–
34	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	–
41	$2\frac{7}{32}$	$2\frac{7}{32}$	–	–	–
42	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	–
50	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	–
66	$2\frac{7}{32}$	–	–	$2\frac{7}{32}$	–
75	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	$2\frac{7}{32}$	–
DIMENSION A—TYPE JTCU					
9	–	$2\frac{15}{32}$	–	–	$2\frac{15}{32}$
14	–	$2\frac{15}{32}$	–	–	$2\frac{15}{32}$
18	–	$2\frac{15}{32}$	–	–	$2\frac{15}{32}$
20	–	$2\frac{15}{32}$	–	$2\frac{15}{32}$	$2\frac{15}{32}$
26	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
34	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
41	$2\frac{15}{32}$	$2\frac{15}{32}$	–	–	–
42	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
50	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
66	$2\frac{15}{32}$	–	–	$2\frac{15}{32}$	–
75	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
DIMENSION A—TYPE JTCX					
9	–	$2\frac{11}{32}$	–	–	$2\frac{11}{32}$
14	–	$2\frac{11}{32}$	–	–	$2\frac{11}{32}$
18	–	$2\frac{11}{32}$	–	–	$2\frac{41}{64}$
20	–	$2\frac{11}{32}$	–	$2\frac{11}{32}$	$2\frac{11}{32}$
26	$2\frac{39}{64}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	–
34	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	–
41	$2\frac{11}{32}$	$2\frac{11}{32}$	–	–	–
42	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	–
50	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	–
66	$2\frac{11}{32}$	–	–	$2\frac{11}{32}$	–
75	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	$2\frac{11}{32}$	–
DIMENSION A—TYPE JTCZ					
9	–	$2\frac{15}{32}$	–	–	$2\frac{15}{32}$
14	–	$2\frac{15}{32}$	–	–	$2\frac{15}{32}$
18	–	$2\frac{15}{32}$	–	–	$2\frac{49}{64}$
20	–	$2\frac{15}{32}$	–	$2\frac{15}{32}$	$2\frac{15}{32}$
26	$2\frac{47}{64}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
34	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
41	$2\frac{15}{32}$	$2\frac{15}{32}$	–	–	–
42	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
50	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–
66	$2\frac{15}{32}$	–	–	$2\frac{15}{32}$	–
75	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	$2\frac{15}{32}$	–

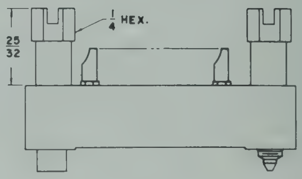
All jackscrews and jacksockets are stainless steel, passivated. All knobs are aluminum, anodized except JTW and JTCW which are stainless steel, passivated.



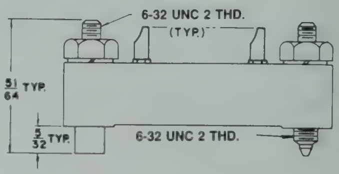
JTW



JTU



JTX

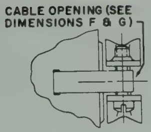


JZ

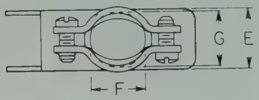
Formed Aluminum Hoods

Dimensions are for reference only and are subject to change.

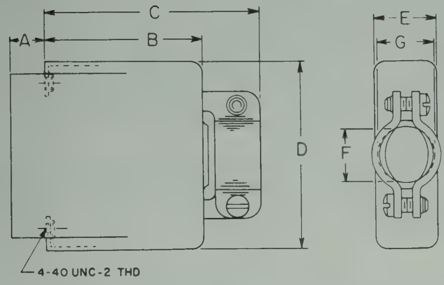
Hoods shown are MRE Hoods for use with MRAC Connectors

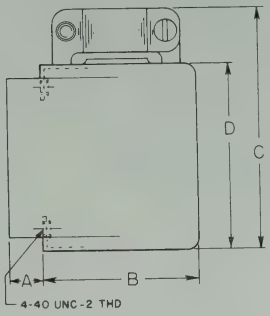


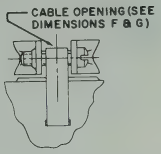
H-8 and H-13 Hoods are identical to H Hood except for cable clamp style and cable opening in the hood.



H-8 and H-13 Cable Clamps







H-9 Cable Clamp

H-9 Hood is identical to H-1 Hood except for cable clamp style and cable opening in the hood.

TOP CABLE OPENING

Code No.	Dimensions					Cable Open'g		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE9H-13	9/32	1 9/32	1 37/64	1 5/16	7/16	19/32	5/16	.3	MRAC9 (P or S)
MRE14H-13	9/32	1 9/32	1 37/64	1 1/4	1/2	19/32	3/8	.3	MRAC14 (P or S)
MRE18H-13	9/32	1 9/32	1 25/32	1 5/16	5/8	39/64	7/16	.3	MRAC18 (P or S)
MRE20H-13	9/32	1 9/32	1 37/64	1 9/16	1/2	21/32	3/8	.3	MRAC20 (P or S)
MRE26H	9/32	1 9/32	1 23/32	1 5/8	41/64	19/32	3/8	.4	MRAC26 (P or S)
MRE26H-8	9/32	1 9/32	1 25/32	1 5/8	41/64	25/32	7/16	.4	
MRE34H	9/32	1 1/4	1 11/16	2	53/64	21/32D.	...	.6	MRAC34 (P or S)
MRE34H-8	9/32	1 1/4	1 3/4	2	53/64	1 1/16	9/16	.6	
MRE41H	9/32	1 1/4	1 11/16	2 5/8	1/2	21/32	7/16	.6	MRAC41 (P or S)
MRE42H	3/32	1 19/64	1 47/64	2 5/16	53/64	5/8D.	...	.7	MRAC42 (P or S)
MRE42H-8	3/32	1 19/64	1 51/64	2 5/16	53/64	1 1/16	9/16	.7	
MRE50H	3/32	1 19/64	1 47/64	2 19/32	53/64	5/8D.	...	.8	MRAC50 (P or S)
MRE50H-8	3/32	1 19/64	1 51/64	2 19/32	53/64	1 1/16	9/16	.8	
MRE75H	3/32	1 5/16	1 3/4	2 19/32	1 3/16	5/8	7/8	1.0	MRAC75 (P or S)
MRE75H-8	3/32	1 5/16	1 55/64	2 19/32	1 3/16	1	7/8	1.0	

SIDE CABLE OPENING

Code No.	Dimensions					Cable Open'g		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE9H-1	9/32	1 9/32	1 5/8	1 5/16	7/16	5/16D.	...	.3	MRAC9 (P or S)
MRE9H-9	9/32	1 9/32	1 39/64	1 5/16	7/16	19/32	5/16		
MRE14H-1	9/32	1 9/32	1 11/16	1 1/4	1/2	3/8D.	...	.3	MRAC14 (P or S)
MRE14H-9	9/32	1 9/32	1 35/64	1 1/4	1/2	19/32	3/8		
MRE18H-1	9/32	1 9/32	1 3/4	1 5/16	5/8	7/16D.	...	.3	MRAC18 (P or S)
MRE18H-9	9/32	1 9/32	1 13/16	1 5/16	5/8	11/16	7/16		
MRE20H-1	9/32	1 9/32	2"	1 9/16	1/2	3/8D.	...	.3	MRAC20 (P or S)
MRE20H-9	9/32	1 9/32	1 55/64	1 9/16	1/2	21/32	3/8		
MRE26H-1	9/32	1 9/32	2 1/16	1 5/8	41/64	19/32	3/8	.4	MRAC26 (P or S)
MRE26H-9	9/32	1 9/32	2 1/8	1 5/8	41/64	25/32	7/16		
MRE34H-1	9/32	1 1/4	2 27/64	2"	53/64	21/32D.	...	.6	MRAC34 (P or S)
MRE34H-9	9/32	1 1/4	...	2"	53/64	13/16	9/16		
MRE41H-1	9/32	1 1/4	3 1/16	2 5/8	1/2	21/32	7/16	.6	MRAC41 (P or S)
MRE42H-1	3/32	1 19/64	2 27/64	2 5/16	53/64	5/8	1/2	.7	MRAC42 (P or S)
MRE42H-9	3/32	1 19/64	...	2 5/16	53/64	27/32	9/16		
MRE50H-1	3/32	1 19/64	3 1/64	2 19/32	53/64	5/8	1/2	.8	MRAC50 (P or S)
MRE50H-9	3/32	1 19/64	...	2 19/32	53/64	1 1/16	9/16		
MRE75H-1	3/32	1 5/16	3 1/64	2 19/32	1 3/16	5/8	7/8	1.0	MRAC75 (P or S)
MRE75H-9	3/32	1 5/16	...	2 19/32	1 3/16	1"	7/8		

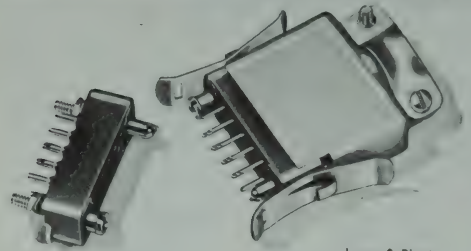
Formed Hoods for MRAC Connectors are available in top and side opening for most MRAC Connectors - **Deep Drawn Hoods** are available for **MRAC 34, MRAC 66 and MRAC 104** connectors ... providing additional strength. Hoods and cable clamps are of anodized aluminum. They provide support and strain relief for the cable and may be applied to either Plug or Receptacle.

Hoods may be ordered separately (see code numbers in above tables) or assembled on connectors. If desired assembled to connectors with G, K, or N guides add only H, H1, H8 or H9 as applicable to Plug or Receptacle Code Number.

MRAC Series

Drawn Aluminum Hoods
Vibration Lock

Dimensions are for reference only and are subject to change.

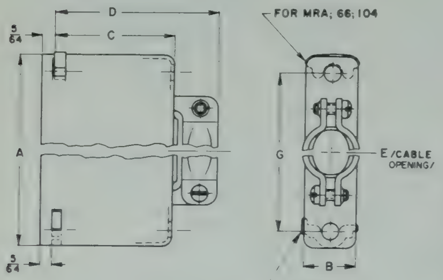


Lock Tabs
(MRAC-V shown)

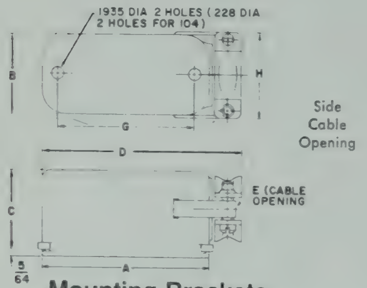
Lever & Pivot
Assemblies
(MRAC-VL shown)

H, H-8 and H-13
Hoods Only

Hoods shown are MRA Hoods for use with MRAC Connectors

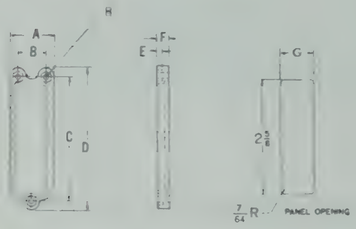


Top Cable Opening



Side Cable Opening

Mounting Brackets



MRA 50 and MRA 75 connectors use the standard MRE 50 and MRE 75 mounting brackets

Removable Contact Rect.

Designed for MRAC connectors, this vibration lock features genuine simplicity of design, plus complete locking effectiveness. Assembly of either the lever-and-pivot assembly or the lock parts to the plug and receptacle is quick and easy. The unit locks automatically when the mating plug and receptacle are engaged. Unlocking and disengaging can be done with one hand.

Nomenclature		Used on Connectors
Lever & Pivot Assembly	**Lock Tabs** (See Note)	
MRAC-VL	**MRAC-V**	**MRAC 9, 14, 18, 20, 26,34,41, and 42**
MRAC-VL2	**MRAC-V2**	**MRAC 50 MRAC 75**

NOTE: When panel mounting the lock-tab half of a MRAC 34, MRAC 42 or MRAC 50 connector, flat washers (.033 minimum thickness) should be used on the mounting screws to shim the molding away from the panel.

Note: Each code number indicates two units, i.e., the "MRAC-VL" consists of two levers and two pivots (unassembled*), and the "MRAC-V" consists of two tabs.

* These units are supplied unassembled to facilitate handling. The pivot is easily assembled to the lever merely by inserting the hooked end through the lever opening. It will automatically snap into proper position.

Patent #2,760,174.

Catalog No.	Dimensions - Top Opening							Weight	Fits
	A	B	C	D	E	F	G	Oz.	Connector
MRA 34H-491	$2\frac{5}{64}$	$\frac{53}{64}$	$1\frac{11}{64}$	$1\frac{19}{32}$	$\frac{21}{32}$X$\frac{3}{4}$	...	1.688	.6	**MRAC 34P** **MRAC 34S**
MRA 66H	$2\frac{3}{8}$	$1\frac{7}{32}$	$1\frac{11}{64}$	$1\frac{11}{16}$	$1\frac{1}{32}$Dia.	...	1.969	.8	**MRAC 66P** **MRAC 66S**
MRA 104H	$2\frac{27}{32}$	$1\frac{5}{8}$	$2\frac{15}{64}$	$2\frac{3}{4}$	$1\frac{3}{16}$Dia.	...	2.375	1.0	**MRAC 104P** **MRAC 104S**

Catalog No.	Dimensions - Side Opening							Weight	Fits
	A	B	C	D	E	H	G	Oz.	Connector
MRA 34H9-491	$2\frac{5}{64}$	$\frac{53}{64}$	$1\frac{11}{64}$	$2\frac{19}{32}$	$\frac{41}{64}$X$\frac{3}{4}$	$1\frac{1}{16}$	1.688	.6	**MRAC 34P** **MRAC 34S**
MRA 66H9	$2\frac{3}{8}$	$1\frac{7}{32}$	$1\frac{11}{64}$	$2\frac{59}{64}$	$\frac{27}{32}$Dia.	$1\frac{11}{32}$	1.969	.8	**MRAC 66P** **MRAC 66S**
MRA 104H9	$2\frac{27}{32}$	$1\frac{5}{8}$	$2\frac{15}{64}$	$3\frac{25}{64}$	$1\frac{3}{16}$Dia	$1\frac{5}{8}$	2.375	1.0	**MRAC 104P** **MRAC 104S**

Code No.	Dimensions								
	A	B	C	D	E	F	G	H	Wgt.
MRE 50B	$1\frac{1}{16}$	.688	3.031	$3\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{25}{32}$	.128 Dia 3 holes (No. 4 mounting screw)	.4oz.
MRE 75B	$1\frac{31}{64}$	1.047	3.062	$3\frac{9}{16}$	$\frac{9}{64}$	$\frac{19}{64}$	$1\frac{9}{64}$	.150 Dia. 3 holes (No. 6 mounting screw)	.6 oz.

Ordering Information - Code Numbering System

Specify complete plug or receptacle by following Steps 1 through 8
Omit steps not required

Step	1	2	3	4	5	6	7	8
	MRAC	34	S		G	H	VL	

Step 1
Insert Code Series - MRAC
(MNAC for numerical contact identification on sizes 34, 50 and 104)

Step 2
Number of Contacts
9, 14, 18, 20, 26, 34, 41, 42, 50, 66, 75, 104

Step 3
Contact Designation
P - Pin S - Socket

When ordering moldings less hardware to be used with monojacks call out

P8 } For thru hole for monojacks -
S8 } Sizes 34, 42, 50, 66, 75, 104

Step 4
Special Plating of Guides
Consult Sales Department

Step 8
Special Options
Consult Sales Department

Step 7
Vibration Locks

V -	Lock Tab
V2 -	Lock Tab (Size 50 & 75)
VL -	Lever & Pivot Ass'y
VL2 -	Lever & Pivot Ass'y (Size 50 & 75)

Step 6
Hoods

H -	Standard Top Opening
H1 -	Standard Side Opening
H8 -	Large Top Opening
H9 -	Large Side Opening
H13 -	Large Top Opening High Hood

See Hood Section for Availability

Step 5
Guides and Jackscrew Locks

Guides

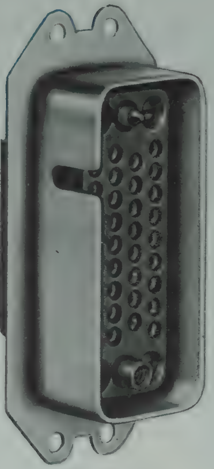
G -	Phosphor Bronze Cylindrical Guides
K -	Beryllium Copper Cylindrical Guides
N -	Brass Cylindrical Guides Add "SS" for Stainless Steel Guides (Ex. "GSS")

Guides are not recommended for Size 104
"P" indicates two Guide Pins or two Jackscrews. (Ex. JTCP)
"S" indicates two Guide Sockets or two Jacksockets. (Ex. GS)

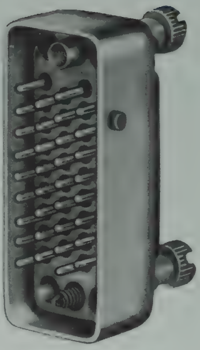
Jackscrew Locks

J -	Polarized Fixed Jackscrew and Jacksocket
JT -	Polarized Short Turning Jackscrew and Jacksocket
JTC -	Polarized Long Turning Jackscrew and Jacksocket
JTD -	Polarized Long Turning Monojackscrew and Monojacksocket for Sizes 34, 42, 50, 66, 75 and 104 only.
JZ -	Same as J but with 6-32 mtg. thd. (std. on 104)
*JTW -	Same as JT but with knurled round knob with internal hex (not avail. 104)
JTU -	Same as JT but with knurled round knob with screwdriver slot (not avail. 104)
JTX -	Same as JT but with hex knob (not avail. 104)
JTCW -	Same as JTC but with knurled round knob with internal hex (not avail. 104)
JTCU -	Same as JTC but with knurled round knob with screwdriver slot (not avail. 104)
JTCX -	Same as JTC but with hex knob (not avail. 104)
JTCZ -	Same as JTC but with prybar knob (not avail. 104)

*Request availability information.



XAC34SF2A010



XAC34PM1A000

XAC34PC1A700

Designed for external installation, the XAC is the MRAC removable contact connector equipped with protective shells and hoods for chassis or cable mounting on metal containers, bulkheads, or any outside surface equipment. Lighter and smaller than other external connectors, they provide dependable service under adverse conditions. Inserts are housed in protective shells and there is screw lock coupling of plug and receptacle.

Specifications

Current Rating: Up to 13 Amps

No. of Contacts: 9, 14, 18, 20, 26, 34, 42, 50, 66, 75, 104

Contacts: Contacts must be ordered separately. Select from crimp, solder, dip solder, shielded or wire wrap terminations.

Electrical Data: Meets high potential performance requirements of MIL-C-28748. The dielectric withstanding voltage is one minute electrification at 2000 VAC.

Military versions are QPL'd to M28748/3 and M28748/4.

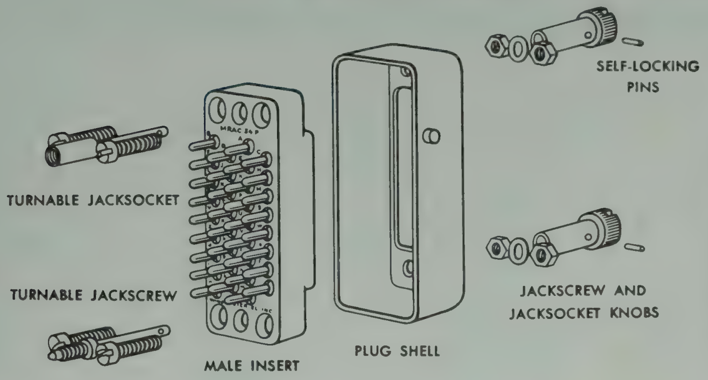
Dielectric: Diallyl Phthalate, MIL-M-14, Type SDG-F, Color Gray

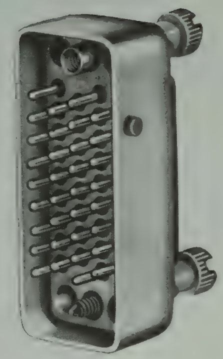
Polarization: Seven positions available for pin and slot polarization on shells. Additional polarization can be provided with various arrangements of jackscrews and guides.

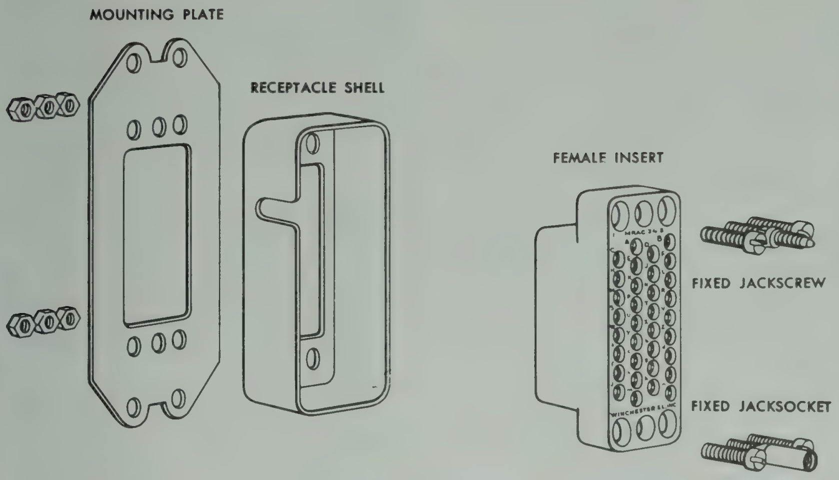
Accessories: Shells, formed and drawn hoods, mounting plates, jackscrews and jacksockets. Guides are available on request.

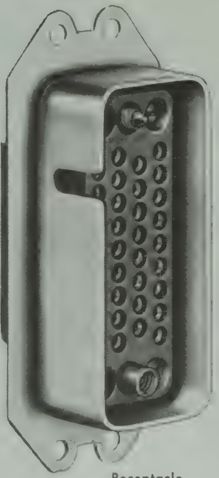
CATALOG NO.		CATALOG NO.		CATALOG NO.	
XAC9-0300X	MS18192-T8	XMRE75-0400X	MS 18192-S6	XJMS603P	MS 18196-3
XAC14-0300X	MS 18192-T1	XMRA66-0700	MS 18193-T1	XJMS603S	MS 18196-4
XAC20-0300X	MS 18192-T2	XMRA66-0800	MS 18193-S1	XNMS700P	MS 18197-1
XMRE9-0400X	MS18192-S8	XMRA 104-0700	MS 18193-T2	XNMS700S	MS 18197-2
XMRE14-0400X	MS 18192-S1	XMRA 104-0800	MS 18193-S2	XNMS702P	MS 18197-3
XMRE20-0400X	MS 18192-S2	XJTCMS605P	MS 18194-1	XNMS702S	MS 18197-4
XMRE26-0300X	MS18192-T9	XJTCMS605S	MS 18194-2	XMRA 14-0010	MS 18198-1
XMRE26-0400X	MS18192-S9	XJTCMS608P	MS 18194-3	XMRA 20-0010	MS 18198-2
XMRE34-0300X	MS 18192-T3	XJTCMS608S	MS 18194-4	XMRA 34-0010	MS 18199-1
XMRE34-0400X	MS 18192-S3	XJTMS605P	MS 18195-1	XMRA42-0010	MS 18199-2
XMRE42-0300X	MS 18192-T4	XJTMS605S	MS 18195-2	XMRA50-0010	MS 18199-3
XMRE42-0400X	MS 18192-S4	XJTMS606P	MS 18195-3	XMRA75-0010	MS 18199-4
XMRE50-0300X	MS 18192-T5	XJTMS606S	MS 18195-4	XMRA66-0010	MS 18200-1
XMRE50-0400X	MS 18192-S5	XJMS602P	MS 18196-1	XMRA104-0010	MS 18200-2
XMRE75-0300X	MS 18192-T6	XJMS602S	MS 18196-2		

Typical Mating Connector Assemblies








Receptacle

Definitions of Connector Terms

Plug: The complete connector half which has the plug shell as part of its assembly.

Receptacle: The complete connector half which has the receptacle shell as part of its assembly.

Shell: The metal housing in which a male or female insert is assembled. A shell is either a plug shell or a receptacle shell:

Plug Shell - one which is designed to be inserted into a receptacle shell.

Receptacle Shell - one which is designed to receive and enclose the plug shell upon engagement.

Male Insert: The molded insulator body containing pin contacts.

Female Insert: The molded insulator body containing socket contacts.

Pin Contacts: Male metal conductors that fit into the socket contacts.

Socket Contacts: Female metal conductors, tubular in shape, which receive the pin contacts and retain them by spring tension.

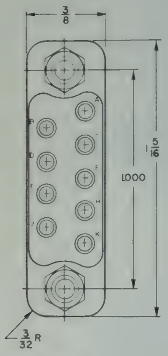
Polarization: A means of controlling the engagement of a plug and receptacle so that correct mating of the contacts is achieved.

Accessories: Those components such as hoods and mounting plates which are attachable to a plug or receptacle to facilitate mounting and/or handling of the connector, and to prevent inadvertent cross-mating.

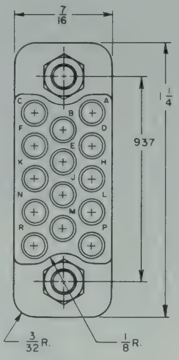
Contact Arrangements

Dimensions are for reference only and are subject to change. Outline drawings on request.

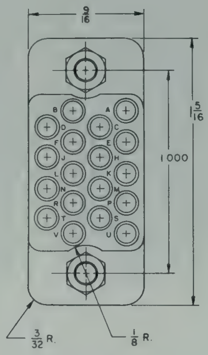
**Views are rear (wiring end) of female inserts.
(Male inserts are opposite.)**



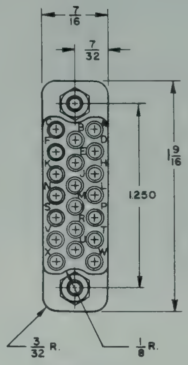
XAC 9



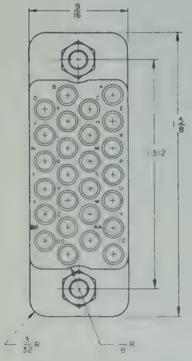
XAC 14



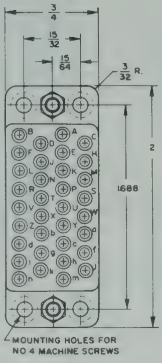
XAC 18



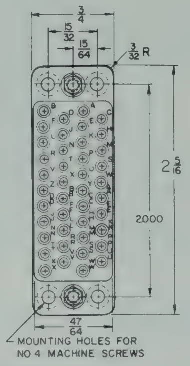
XAC 20



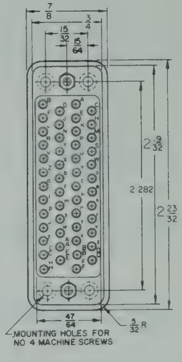
XAC 26



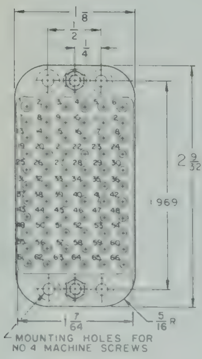
XAC 34 *



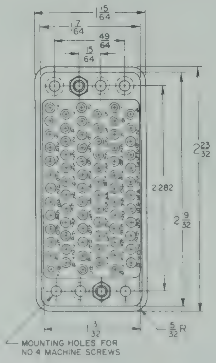
XAC 42



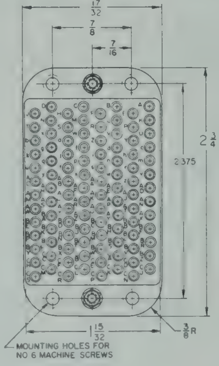
XAC 50 *



XAC 66



XAC 75



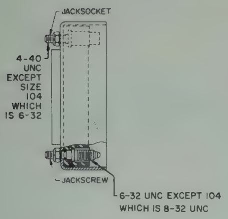
XAC 104 *

The spacing, arrangement, and identification of contacts of the XAC inserts are the same as those found on the Series MRAC removable contact connectors for the same number of contacts.

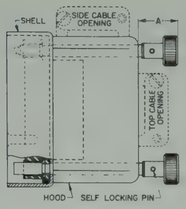
*For numerical contact identification instead of alphabetical, order XNAC. ________
P or S available in sizes 34, 50 and 104. Sizes 66 and 75 have numerical contact identification as standard.

Jackscrews, Jacksockets, Monojacks and Knobs

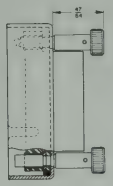
Dimensions are for reference only and are subject to change.


JACKSOCKET
4-40 UNC EXCEPT SIZE 104 WHICH IS 6-32
JACKSCREW
6-32 UNC EXCEPT 104 WHICH IS 8-32 UNC

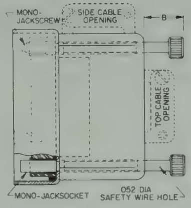
Fixed Jackscrews (F)



Long Turning Jackscrews (C)
Used with Hoods



Short Turning Jackscrews (M)
Used only without Hoods



Monojacks (D)
Used with Hoods

Specifications

Turnable jackscrew-jacksocket combination (M, C, or D) assembles on either Plug or Receptacle; the mating connector-half (either Receptacle or Plug) must then contain fixed jackscrew-jacksocket combination(F).

Both short and long turning, jackscrews (M and C) have knurled and slotted knobs for locking by hand or screwdriver. Knob is assembled on shaft with hollow, removable, self-locking pin. Safety wiring of engaged halves is achieved by using the through-hole in self-locking pin in the knob.

Monojacks (D) are long turning one-piece locking devices with slotted and knurled head. Shaft has through-hole for safety wire. Available with hoods only, in sizes 34, 42, 50, 66, 75, and 104.

Drawings show extension of standard knobs beyond shell and beyond hood.

Note 1: Weights are for pairs; i.e., for a jackscrew and jacksocket, etc., so weight figure may be added once to weights of other accessories when computing total weight of plug or receptacle.

Note 2: Weights of turnable jackscrews and turnable jacksockets include knob and rollpins, except mono-jackscrew and mono-jacksocket, which is a one-piece construction (shaft and knob made in one piece); weight of fixed jackscrew and jacksocket includes nuts.

Applications

Jackscrew locking device assures positive coupling of engaged connectors to prevent accidental disconnecting from vibration or physical shock. It also aids easy connection and separation of connector plug and receptacle. Mounted connector-half houses one non-turnable fixed jackscrew and jacksocket to insure connector polarization. Mating-half houses one of the three types of turning jackscrew and jacksocket (M, C, or D).

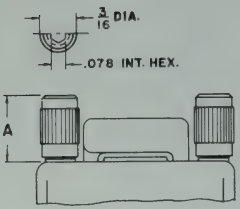
LOCKING DEVICE	SPECIFICATIONS		
PART	CODE LETTER	WT. OZ. SEE NOTE 1 & 2	MATERIAL AND FINISH
Jackscrew —Fixed Jacksocket	F	0.15	Stainless Steel with Passivating Dip
Jackscrew Short Jacksocket Turnable	M	0.30	Stainless Steel with Passivating Dip
Jackscrew Long Jacksocket Turnable	C	0.45	Stainless Steel with Passivating Dip
Mono-Jackscrew —Long Turnable Mono-Jacksocket	D	1.07	Stainless Steel with Passivating Dip
Knob — Standard	....	....	Aluminum Anodized

STANDARD KNOBS - EXTENSION BEYOND HOOD

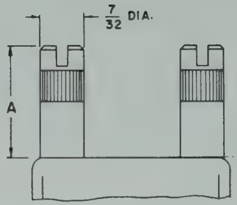
	DIMENSION "A"											DIMENSION "B"					
XAC	9*	14*	18*	20*	26	34	42	50	66	75	104	34	42	50	66	75	104
0300	$^{35}/_{64}$	$^{35}/_{64}$	$^{35}/_{64}$	$^{35}/_{64}$	$^{49}/_{64}$	$^{37}/_{64}$	$^{17}/_{32}$	$^{17}/_{32}$	...	$^{33}/_{64}$	...	$^{19}/_{32}$	$^{35}/_{64}$	$^{35}/_{64}$	...	$^{17}/_{32}$	...
0400	$^{35}/_{64}$	$^{35}/_{64}$	$^{35}/_{64}$	$^{35}/_{64}$	$^{35}/_{64}$	$^{37}/_{64}$	$^{17}/_{32}$	$^{17}/_{32}$	...	$^{33}/_{64}$	...	$^{19}/_{32}$	$^{35}/_{64}$	$^{35}/_{64}$	...	$^{17}/_{32}$	...
0700	...	...	...	...	...	$^{37}/_{64}$	...	...	$^{41}/_{64}$	...	$^{33}/_{64}$	...	...	...	$^{3}/_{8}$	...	$^{3}/_{8}$
0800	...	...	...	...	...	$^{37}/_{64}$	...	...	$^{41}/_{64}$	...	$^{33}/_{64}$	...	...	...	$^{3}/_{8}$	...	$^{3}/_{8}$

*On sizes 9,14,18, and 20, only large top opening hoods are available when (c) long turning jackscrews are used.
Catalog Number for large top opening hoods is - 0300X

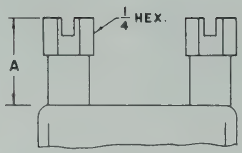
Jackscrew Locking For Series XAC Connectors



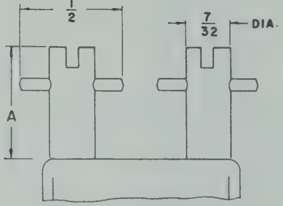
CW



CU



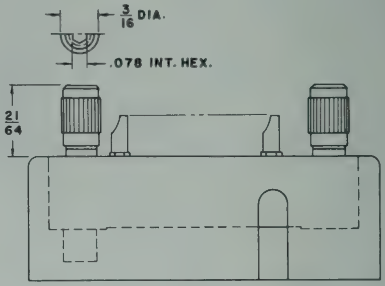
CX



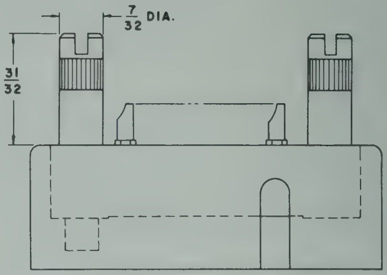
CZ

Size	0300	0400	0300X	0400X	0700	0800
DIMENSION A—TYPE CW						
9	–	23/64	23/64	23/64	–	–
14	–	23/64	23/64	23/64	–	–
18	–	23/64	23/64	23/64	–	–
20	–	23/64	23/64	23/64	–	–
26	23/64	23/64	23/64	23/64	–	–
34	25/64	25/64	25/64	25/64	15/32	15/32
42	11/32	11/32	11/32	11/32	–	–
50	11/32	11/32	11/32	11/32	–	–
66	–	–	–	–	15/32	15/32
75	21/64	21/64	21/64	21/64	–	–
DIMENSION A—TYPE CU						
9	–	39/64	39/64	39/64	–	–
14	–	39/64	39/64	39/64	–	–
18	–	39/64	39/64	39/64	–	–
20	–	39/64	39/64	39/64	–	–
26	39/64	39/64	39/64	39/64	–	–
34	41/64	41/64	41/64	41/64	23/32	23/32
42	19/32	19/32	19/32	19/32	–	–
50	19/32	19/32	19/32	19/32	–	–
66	–	–	–	–	23/32	23/32
75	37/64	37/64	37/64	37/64	–	–
DIMENSION A—TYPE CX						
9	–	31/64	31/64	31/64	–	–
14	–	31/64	31/64	31/64	–	–
18	–	31/64	51/64	31/64	–	–
20	–	31/64	31/64	31/64	–	–
26	49/64	31/64	31/64	31/64	–	–
34	33/64	33/64	33/64	33/64	39/64	39/64
42	15/32	15/32	15/32	15/32	–	–
50	15/32	15/32	15/32	15/32	–	–
66	–	–	–	–	39/64	39/64
75	29/64	29/64	29/64	29/64	–	–
DIMENSION A—TYPE CZ						
9	–	39/64	39/64	39/64	–	–
14	–	39/64	39/64	39/64	–	–
18	–	39/64	59/64	39/64	–	–
20	–	39/64	39/64	39/64	–	–
26	59/64	39/64	39/64	39/64	–	–
34	41/64	41/64	41/64	41/64	23/32	23/32
42	19/32	19/32	19/32	19/32	–	–
50	19/32	19/32	19/32	19/32	–	–
66	–	–	–	–	23/32	23/32
75	37/64	37/64	37/64	37/64	–	–

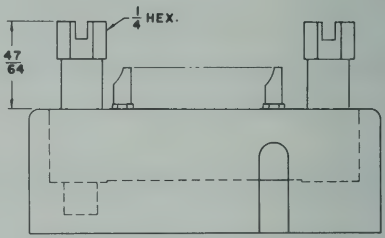
All jackscrews and sockets are stainless steel, passivated. All knobs are aluminum, anodized except MW and CW which are stainless steel, passivated.



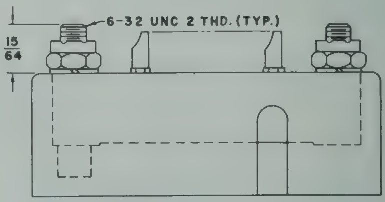
MW



MU



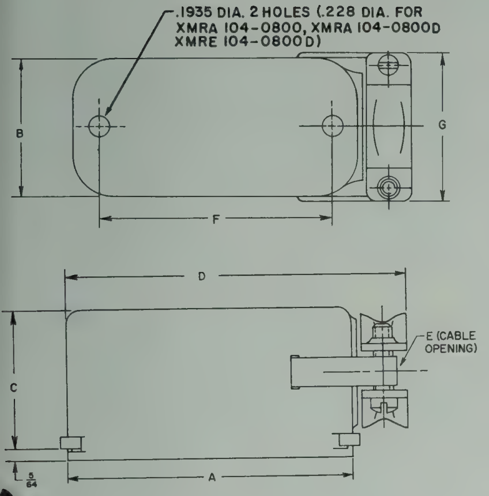
MX



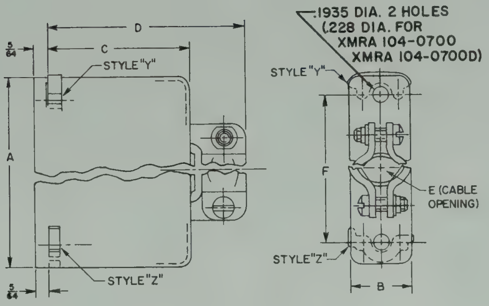
FZ

XMRE and XMRA Hoods for XAC Connectors

Dimensions are for reference only and are subject to change.


.1935 DIA. 2 HOLES (.228 DIA. FOR XMRA 104-0800, XMRA 104-0800D XMRE 104-0800D)
B
G
F
D
C
E (CABLE OPENING)
5/64
A

Side Cable Opening



Top Cable Opening

The XAC Series uses standard XMRA/XMRE protective hardware.
To order separately, use XMRE/XMRA catalog numbers indicated.

HOODS - SIDE CABLE OPENING

For Use With	Hood Part No. (If ordered) separately)	Dimensions						
		A	B	C	D	E	F	G
Type C Jack Sockets and Jackscrews	XMRA 34-0800	2 3/32	27/32	1 11/64	2 37/64	41/64X3/4	1.688	1 1/16
	XMRA 66-0800	2 3/8	1 7/32	1 11/64	2 29/32	27/32D.	1.969	1 11/32
	XMRA 104-0800	2 27/32	1 5/8	2 15/64	3 3/8	1 3/16D.	2.375	1 5/8
Type D Jack Sockets and Jackscrews	XMRE 34-0800D	2 3/32	27/32	1 11/64	2 37/64	41/64X3/4	1.688	1 1/16
	XMRE 66-0800D	2 3/8	1 7/32	1 11/64	2 29/32	27/32D.	1.969	1 11/32
	XMRE 104-0800D	2 27/32	1 5/8	2 15/64	3 3/8	1 3/16D.	2.375	1 5/8
Type F Jackscrews	XMRA 34-0200	2 3/32	27/32	1 11/64	2 37/64	41/64X3/4	...	1 1/16
	XMRA 66-0200	2 3/8	1 7/32	1 11/64	2 29/32	27/32D.	...	1 11/32
	XMRA 104-0200	2 27/32	1 5/8	2 15/64	3 3/8	1 3/16D.	...	1 5/8

XMRA 34-0800 and XMRA 34-0200 are style "Z" Hood Mounts.
All others are style "Y".

HOODS - TOP CABLE OPENING

For Use With	Hood Part No. (If ordered separately)	Dimensions					
		A	B	C	D	E	F
Type C Jack Sockets and Jackscrews	XMRA 34-0700	2 3/32	27/32	1 11/64	1 19/32	21/32X3/4	1.688
	XMRA 66-0700	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	1.969
	XMRA 104-0700	2 27/32	1 5/8	2 15/64	2 3/4	1 3/16D.	2.375
Type D Jack Sockets and Jackscrews	XMRA 34-0700D	2 3/32	27/32	1 11/64	1 19/32	21/32X3/4	1.688
	XMRA 66-0700D	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	1.969
	XMRA 104-0700D	2 27/32	1 5/8	2 15/64	2 3/4	1 3/16D.	2.375
Type F Jackscrews	XMRA 34-0900	2 3/32	27/32	1 11/64	1 19/32	21/32X3/4	...
	XMRA 66-0900	2 3/8	1 7/32	1 11/64	1 11/16	1 1/32D.	...
	XMRA 104-0900	2 27/32	1 5/8	2 15/64	2 3/4	1 3/16D.	...

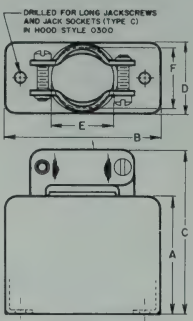
XMRA 34-0700 and XMRA 34-0900 are style "Z" Hood Mounts.
All others are style "Y".

XMRE Formed Hoods for use with XAC Connectors

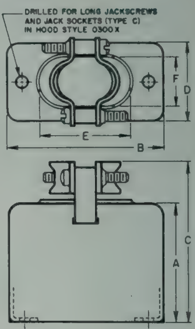
Dimensions are for reference only and are subject to change.

HOODS - TOP CABLE OPENING

For Use With Monojacks	For Use With Type C Jacksockets and Jackscrews	For Use With Fixed Jackscrews	Dimensions				Cable Open'g		Wt. Oz.
	Hood Part No. (If ordered separately)		A	B	C	D	E DIA.	F DIA.	(Inc. 2 Cable Clamps and Screws)
	XAC 9-0300X	XAC 9-0500XJ	1 9/32	1 5/16	1 37/64	7/16	19/32	5/16	0.3
	XAC 14-0300X	XAC 14-0500XJ	1 9/32	1 1/4	1 37/64	1/2	19/32	3/8	0.3
	XAC 18-0300X	XAC 18-0500XJ	1 9/32	1 5/16	1 25/32	5/8	39/64	7/16	0.4
	XAC 20-0300X	XAC 20-0500XJ	1 9/32	1 9/16	1 37/64	1/2	21/32	3/8	0.3
	XMRE 26-0300	XMRE 26-0500J	1 9/32	1 5/8	1 23/32	41/64	19/32	3/8	0.4
	XMRE 26-0300X	XMRE 26-0500XJ	1 9/32	1 5/8	1 25/32	41/64	25/32	7/16	
XMRE 34-0300D	XMRE 34-0300	XMRE 34-0500J	1 1/4	2	1 11/16	53/64	21/32	...	0.9
XMRE 34-0300XD	XMRE 34-0300X	XMRE 34-0500XJ	1 1/4	2	1 3/4	53/64	1 1/16	9/16	
XMRE 42-0300D	XMRE 42-0300	XMRE 42-0500J	1 19/64	2 5/16	1 47/64	53/64	5/8	...	0.7
XMRE 42-0300XD	XMRE 42-0300X	XMRE 42-0500XJ	1 19/64	2 5/16	1 51/64	53/64	1 1/16	9/16	
XMRE 50-0300D	XMRE 50-0300	XMRE 50-0500J	1 19/64	2 19/32	1 47/64	53/64	5/8	...	0.8
XMRE 50-0300XD	XMRE 50-0300X	XMRE 50-0500XJ	1 19/64	2 19/32	1 51/64	53/64	1 1/16	9/16	
XMRE 75-0300D	XMRE 75-0300	XMRE 75-0500J	1 5/16	2 19/32	1 3/4	1 3/16	5/8	7/8	1.0
XMRE 75-0300XD	XMRE 75-0300 X	XMRE 75-0500XJ	1 5/16	2 19/32	1 55/64	1 3/16	1	7/8	


DRILLED FOR LONG JACKSCREWS AND JACK SOCKETS (TYPE C) IN HOOD STYLE 0300
F
D
E
B
C
A

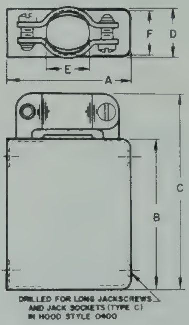
Top Cable Opening


DRILLED FOR LONG JACKSCREWS AND JACK SOCKETS (TYPE C) IN HOOD STYLE 0300X
F
D
E
B
C
A

Large Top Cable Opening

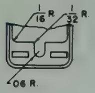
HOODS - SIDE CABLE OPENING

For Use With Monojacks	For Use With Type C Jacksockets and Jackscrews	For Use With Fixed Jackscrews	Dimensions				Cable Open'g		
	Hood Part No. (If ordered separately)		A	B	C	D	E DIA.	F DIA.	Wt. Oz.
	XMRE 9-0400	XMRE 9-0600J	1 9/32	1 5/16	1 5/8	7/16	5/16	...	0.3
	XMRE 9-0400X	XMRE 9-0600XJ	1 9/32	1 5/16	1 39/64	7/16	19/32	5/16	
	XMRE 14 -0400	XMRE 14-0600J	1 9/32	1 1/4	1 11/16	1/2	3/8	...	0.3
	XMRE 14-0400X	XMRE 14-0600XJ	1 9/32	1 1/4	1 35/64	1/2	19/32	3/8	
	XMRE 18-0400	XMRE 18-0600J	1 9/32	1 5/16	1 3/4	5/8	7/16	...	0.4
	XMRE 18-0400X	XMRE 18-0600XJ	1 9/32	1 5/16	1 13/16	5/8	11/16	7/16	
	XMRE 20-0400	XMRE 20-0600J	1 9/32	1 9/16	2	1/2	3/8	...	0.3
	XMRE 20-0400X	XMRE 20-0600XJ	1 9/32	1 9/16	1 55/64	1/2	21/32	3/8	
	XMRE 26-0400	XMRE 26-0600J	1 9/32	1 5/8	2 1/16	41/64	19/32	3/8	0.4
	XMRE 26-0400X	XMRE 26-0600XJ	1 9/32	1 5/8	2 1/8	41/64	25/32	7/16	
XMRE 34-0400D	XMRE 34-0400	XMRE 34-0600J	1 1/4	2	2 27/64	53/64	21/32	...	0.9
XMRE 34-0400XD	XMRE 34-0400X	XMRE 34-0600XJ	1 1/4	2	2 1/2	53/64	13/16	9/16	
XMRE 42-0400D	XMRE 42-0400	XMRE 42-0600J	1 19/64	2 5/16	2 47/64	53/64	5/8	1/2	0.7
XMRE 42-0400XD	XMRE 42-0400X	XMRE 42-0600XJ	1 19/64	2 5/16	2 13/16	53/64	27/32	9/16	
XMRE 50-0400D	XMRE 50-0400	XMRE 50-0600J	1 19/64	2 19/32	3 1/64	53/64	5/8	1/2	0.8
XMRE 50-0400XD	XMRE 50-0400X	XMRE 50-0600XJ	1 19/64	2 19/32	3 3/32	53/64	1 1/16	9/16	
XMRE 75-0400D	XMRE 75-0400	XMRE 75-0600J	1 5/16	2 19/32	3 1/64	1 3/16	5/8	7/8	1.0
XMRE 75-0400XD	XMRE 75-0400X	XMRE 75-0600XJ	1 5/16	2 19/32	3 9/64	1 3/16	1	7/8	

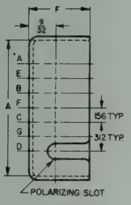

F
D
E
A
C
B
DRILLED FOR LONG JACKSCREWS AND JACK SOCKETS (TYPE C) IN HOOD STYLE 0400

Side Cable Opening

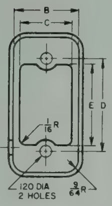
XMRE and XMRA Receptacle Shells for use with XAC Connectors



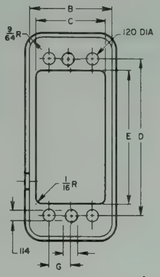
Mtg Hole Style 9



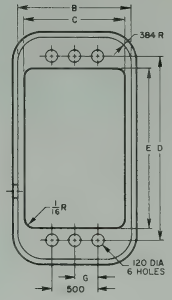
For All XAC Conf.



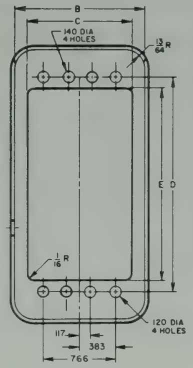
For XAC 9 to 26



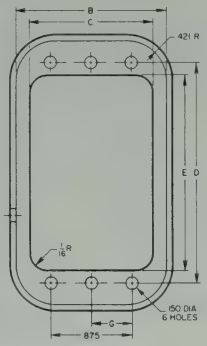
For XAC 34, 42, and 50



For XAC 66



For XAC 75



For XAC 104

RECEPTACLE SHELLS

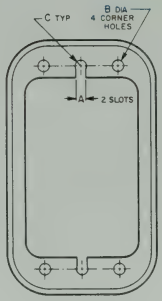
Shell Part No. (If ordered Separately)	Dimensions							Wt. Oz.
	A	B	C	D	E	F	G	
XMRE 9-2*000	1 29/64	33/64	3/8	1.000	7/8	21/32	...	0.15
XMRE 14-2*000	1 25/64	37/64	29/64	.937	13/16	21/32	...	0.16
XMRE 18-2*000	1 29/64	45/64	37/64	1.000	7/8	21/32	...	0.17
XMRE 20-2*000	1 45/64	37/64	29/64	1.250	1 1/8	21/32	...	0.19
XMRE 26-2*000	1 49/64	45/64	37/64	1.312	1 3/16	21/32	...	0.23
XMRE 34-2*000 XMRE 34-4*000	2 9/64	57/64	3/4	1.687	1 7/16	21/32	.234	0.25
XMRE 42-2*000 XMRE 42-4*000	2 29/64	57/64	3/4	2.000	1 3/4	21/32	.234	0.28
XMRE 50-2*000 XMRE 50-4*000	2 55/64	1 1/64	3/4	2.282	2 1/32	21/32	.234	0.30
XMRA 66-2*000 XMRA 66-4*000	2 27/64	1 17/64	1 1/8	1.969	1 23/32	21/32	.250	0.28
XMRE 75-2*000 XMRE 75-4*000	2 55/64	1 3/8	1 7/64	2.282	2 1/32	21/32	...	0.32
XMRA 104-2*000 XMRA 104-4*000	2 29/32	1 11/16	1 31/64	2.375	2 1/8	21/32	.437	0.30

Important Note When Ordering Receptacle Shells

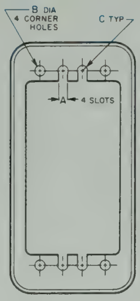
The shell part numbers given in the table show an asterisk (*) where the code letter for the desired polarizing position belongs - example: **XMRE9-2*000** becomes **XMRE9-2B000** when polarization in position "B" is desired. Specify the same position on the mating shell.

For non-polarized shells, merely omit this position, e.g. **XMRE9-2000.**

Typical Shells For Monojacks Style No. 4000



For XAC 34, 42, 50, 66, and 104 Configuration



For XAC 75 Configuration

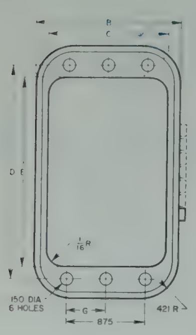
Receptacle Shell Style No. 2000

Shells are .040 in. thick.

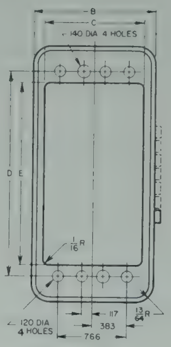
Shells are aluminum, anodized for protection against corrosion. Either shell style - plug or receptacle - may be used to house the female insert, thus allowing the "live" socket contacts to be cable or panel mounted, as desired. Shells also provide a means by which connector polarization is accomplished - the receptacle shell is slotted for engaging a polarizing pin on the plug shell. Any of seven positions (A, B, C, D, E, F, or G) may be specified for polarization; non-polarized shells have the slot and pin omitted.

For Connector Size	A	B	C
34,42,50,66,75	7/64	.120	.06R
104	9/64	.150	.07R

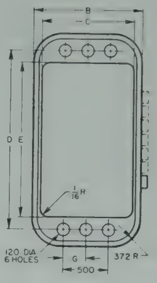
XMRE and XMRA Plug Shells for use with XAC Connectors



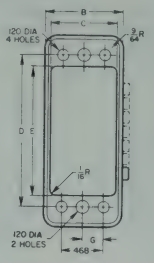
For XAC 104



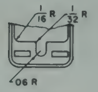
For XAC 75



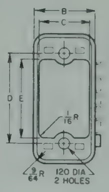
For XAC 66



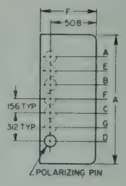
For XAC 34, 42, and 50



Mtg Hole Style 9



For XAC 9 to 26

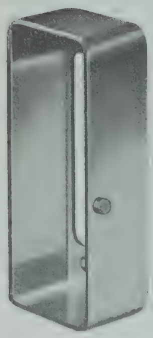


For ALL XAC Config.

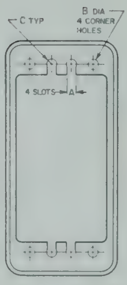
For Connector Size	A	B	C
34,42,50,66,75	7/64	.120	.06R
104	9/64	.150	.07R

Shells are aluminum, anodized for protection against corrosion. Either shell style - plug or receptacle - may be used to house the female insert, thus allowing the "live" socket contacts to be cable or panel mounted, as desired. Shells also provide a means by which connector polarization is accomplished - the receptacle shell is slotted for engaging a polarizing pin on the plug shell. Any of seven positions (A, B, C, D, E, F, or G) may be specified for polarization; non-polarized shells have the slot and pin omitted.

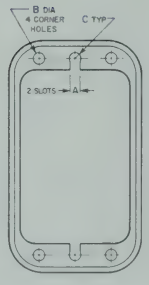
Typical Shells for Monojacks Style No. 3000



Plug Shell Style No. 1000



For XAC 75 Configuration



For XAC 34, 42, 50, 66, and 104 Configuration

PLUG SHELLS

Shell Part No. (If ordered Separately)	Dimensions							Wt. Oz.
	A	B	C	D	E	F	G	
XMRE 9-1*000	1 7/16	1/2	3/8	1.000	7/8	5/8	...	0.14
XMRE 14-1*000	1 3/8	9/16	29/64	.937	13/16	5/8	...	0.15
XMRE 18-1*000	1 7/16	11/16	37/64	1.000	7/8	5/8	...	0.16
XMRE 20-1*000	1 11/16	9/16	29/64	1.250	1 1/8	5/8	...	0.18
XMRE 26-1*000	1 3/4	11/16	37/64	1.312	1 3/16	5/8	...	0.22
XMRE 34-1*000 XMRE 34-3*000	2 1/8	7/8	3/4	1.687	1 7/16	21/32	.234	0.24
XMRE 42-1*000 XMRE 42-3*000	2 7/16	7/8	3/4	2.000	1 3/4	21/32	.234	0.26
XMRE 50-1*000 XMRE 50-3*000	2 27/32	1	3/4	2.282	2 1/32	21/32	.234	0.28
XMRA 66-1*000 XMRA 66-3*000	2 13/32	1 1/4	1 1/8	1.969	1 23/32	21/32	.250	0.28
XMRE 75-1*000 XMRE 75-3*000	2 27/32	1 23/64	1 7/64	2.282	2 1/32	21/32	...	0.30
XMRA 104-1*000 XMRA 104-3*000	2 7/8	1 21/32	1 31/64	2.375	2 1/8	21/32	.437	0.30

Important Note When Ordering Plug Shells

The shell part numbers given in the table show an asterisk (*) where the code letter for the desired polarizing position belongs - example: **XMRE9-1*000** becomes **XMRE9-1B000** when polarization in position "B" is desired. Specify the same position on the mating shell.

For non-polarized shells, merely omit this position, e.g. **XMRE9-1000**.

Shells are .040 in. thick.

Stainless steel shells available for 66 and 104 sizes. Dimensions vary from those shown for aluminum shells. Check Sales for availability and dimensions on all sizes.

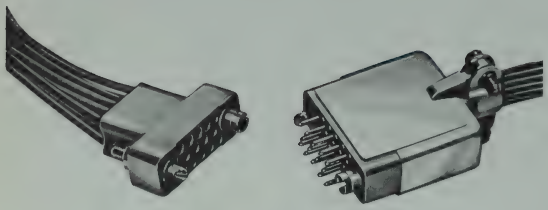
Ordering Information

Specify complete plug or receptacle by following Steps 1 through 9

Step 1	Step 2	Step 3		Step 4	Step 5	Step 6
Series	**No. of Contacts**	**Pin**	**Socket**	**Jackscrews**	**Shell Type**	**Polarization Position**
XAC	9, 14, 18, 20, 26, 34, 42, 50, 66, 75, 104	P	S	M - Polarized short turnable jackscrew and jacksocket with standard knobs. Cannot be used with hood. C - Polarized long turnable jackscrew and jacksocket with standard knobs; to be used with hood. D - Polarized one-piece mono-jackscrew and mono-jacksocket (no separate knob); to be used with hoods on sizes: 34, 42, 50, 66, 75, and 104. F - Polarized fixed jackscrew and jacksocket usable with or without hood; (no knob required). J - Non-polarized short turnable jackscrews with standard knobs; cannot be used with hood. L - Non-polarized long turning jackscrews with standard knob; to be used with hood. R - Non-polarized fixed jacksockets - no knob required; usable with or without hood. FZ - Same as F but with 6-32 mtg. thd. (std 104). MW - Same as M but with knurled round knob with internal hex (not avail. 104). MU - Same as M but with knurled round knob with screwdriver slot (not avail. 104). MX - Same as M but with hex knob (not avail. 104). CW - Same as C but with knurled round knob with internal hex (not avail. 104). CU - Same as C but with knurled round knob with screwdriver slot (not avail. 104). CX - Same as C but with hex knob (not avail. 104). CZ - Same as C but with prybar knob (not avail. 104).	1 - Plug Shell Style 1*000 2 - Receptacle Shell Style 2*000 3 - Plug Shell to be used with mono-jacks Style 3*000 4 - Receptacle Shell to be used with mono-jacks Style 4*000 6 - Flanged Receptacle Shell Style 6*000 7 - Plug Shell Stainless Steel Style 7*000 8 - Receptacle Shell Stainless Steel Style 8*000 *Polarizing Position	A, B, C, D, E, F, or G. Omit letter when polarization is not required.

Step 7	Step 8	Step 9
Hoods	**Mounting Plates**	**Special Gaskets**
Formed Hoods 3 -Hood,. top opening, style #0300, for use with Type "C", "D", or "L" jackscrews. 4 -Hood, side opening, style #0400, for use with Type "C", "D", or "L" jackscrews. 5 -Hood, top opening, style #0500J, for use with "F" style jackscrews. 6 -Hood, side opening, style #0600J, for use with "F" style jackscrews. **Deep Drawn Hoods** 7 -Hood, top opening, style #0700, for use with Type "C", "D", or "L" jackscrews. 8 -Hood, side opening, style #0800, for use with Type "C", "D", or "L" jackscrews. 9 -Hood, top opening, style #0900, for use with "F" and "R" jackscrews. 2 -Hood, side opening, style #0200, for use with "F" and "R" jackscrews.	00 - When no mounting plate is required. †10 - Mounting plate, style #0010. † Mounting plates are not used with "M", "C", "J", "L", or "D" jackscrews.	Omit letter when gaskets are not required. G - Bulkhead gasket, style #0000G. Use only when mounting plate is specified. F - Face gasket, style #0000F. Use with male insert only. B - If both gasket #0000G and gasket #0000F are desired. Check plant for availability information on all gaskets. Addition of "X" to code # indicates cable opening larger than std. See hoods for cable opening size.

Removable Contact Sub. Min.



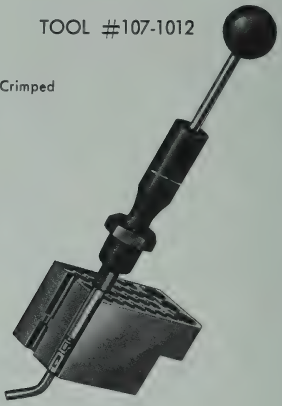
SREC 14PNH13
SREC 14SN

The SREC series is the first family of subminiature crimp contact rack and panel connectors. While retaining all of the important features of true connector miniaturization the SREC offers .030 diameter crimp (4 indents) type removable contacts with .094 center to center spacing. Contacts are precision machined to assure solid pin and socket reliability. Compact and light in weight, the SREC Series is especially suitable for aircraft, instrumentation, computer and portable equipment applications.

Contacts to be ordered separately.

TOOL #107-1012

Figure 1 – Crimped view of connector body.



Specifications

Current Rating: 5 amps

No. of Contacts: 7, 11, 14, 18, 20, 26, 34, 44, 50

Pin Contacts: .030 dia. 4 indent crimp. Leaded commercial bronze, gold plated.

Socket Contacts: Phosphor bronze, gold plated

Terminations: Crimp or .025 sq. wire wrap. Crimp contacts will accommodate #20-#28 AWG stranded wire.

Dielectric: Glass-filled diallyl phthalate per MIL-M-14, SDG-F.

Electrical Data: The dielectric withstanding voltage is one minute electrification at 1400 VAC.

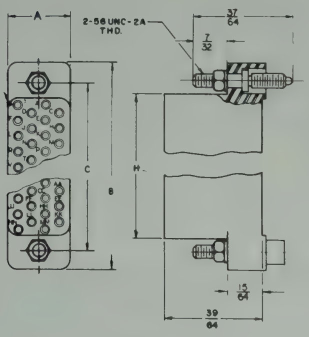
Jackscrews: Long and short turning, passivated stainless steel. Anodized aluminum knurled knobs equipped with set screws for long turning jackscrews. Stainless steel knobs with groove pins for short turning jackscrews.

Guides: Type N is standard, brass for extra mechanical strength. Type K - beryllium copper for high electrical conductivity. Type NSS - stainless steel.

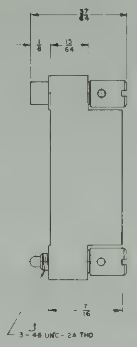
Hoods: Top opening hoods available in all sizes. Side opening available for SREC 50 only.

General Outline Drawings

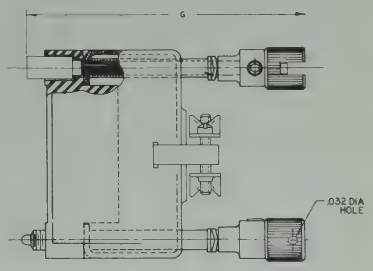
Dimensions are for reference only and are subject to change. Outline drawings on request.



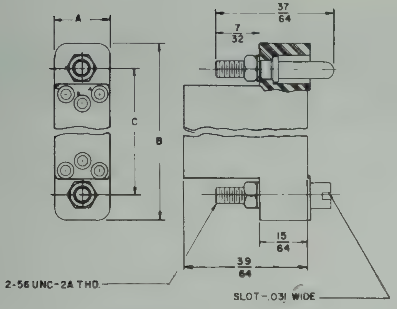
SREC-SJ



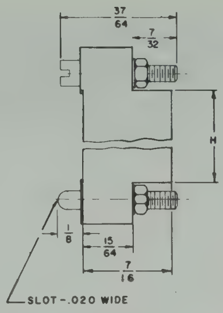
SREC-PJT



SREC-JTCH13



SREC-SN/K



SREC-PN/K

DIMENSION CHART					
No. of Contacts	A	B	C	G	H
7	13/64	25/32	.562	1 43/64	13/32
14	9/32	7/8	.625	1 43/64	1/2
20	9/32	1 1/16	.814	1 43/64	11/16
26	9/32	1 1/4	1.000	1 43/64	7/8
34	25/64	1 1/4	1.032	1 43/64	7/8
50	25/64	1 5/8	1.408	2 29/64	1 1/4

SREC 11, 18 & 44 outline drawings on request.

PHYSICAL DATA

Weight in Ounces (w/o contacts)		SREC 7	SREC 14	SREC 20	SREC 26	SREC 34	SREC 50
	Plug	.03	.05	.07	.08	.12	.15
	Rec.	.04	.06	.08	.09	.15	.20

Component Parts	Guide Pin	Guide Socket	L Washer (2)	Nut (2)
Weight in Ounces	.02	.02	.007	.01

CONTACTS

Part No.	Contact Type	Wire Size (Stranded)	Dimensions				Current Rating
			A	B	C	D	
100-4024P	P (Male)	24-26-28	...	9/16	.028	.055	5 Amp
100-4024S	S (Female)	24-26-28	35/64	...	.028	.055	
100-4020P	P (Male)	20-22	...	1/2	.046	...	
100-4020S	S (Female)	20-22	31/64	...	.046	...	

Polarizing Pin: Brass, Gold Plated, Part No. 109-8565.

SRE/SREC LARGE TOP OPENING HOODS

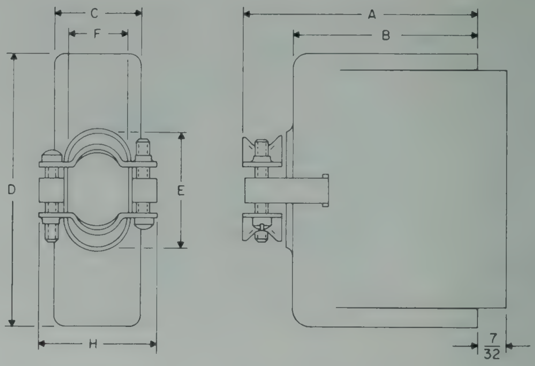
Cat. No.	Dimensions				Cable Opening		H	Fits Connector
	A	B	C	D	E	F		
SRE 7H13	1 1/64	3/4	1/4	25/32	7/32	5/32	17/32	SRE 7 P/S SREC 7 P/S
SRE 14H13	1 1/64	3/4	11/32	7/8	3/8	1/4	17/32	SRE 14 P/S SREC 14 P/S
SRE 20H13	1 1/64	3/4	11/32	1 1/16	3/8	1/4	17/32	SRE 20 P/S SREC 20 P/S
SRE 26H13	1 1/64	3/4	11/32	1 1/4	13/32	1/4	17/32	SRE 26 P/S SREC 26 P/S
SRE 34H13	1 3/64	3/4	29/64	1 1/4	47/64	3/8	5/8	SRE 34 P/S SREC 34 P/S
SRE 50H8	1 51/64	1 1/2	29/64	1 5/8	1 3/16	3/8	5/8	SRE 50 P/S SREC 50 P/S

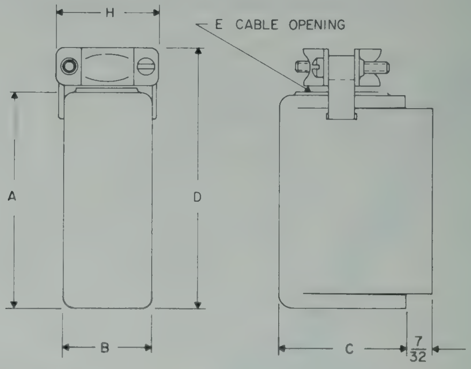
SRE/SREC LARGE SIDE OPENING HOODS

Cat. No.	A	B	C	D	E	H	Fits Connector
SRE 50H9	1 5/8	29/64	1 1/2	1 59/64	1 3/16X3/8	5/8	SRE 50 P/S SREC 50 P/S

Contacts—Formed Aluminum Hoods

Dimensions are for reference only and are subject to change.





Ordering Information

Specify plug or receptacle by following Steps 1 through 7.
Omit step 7 if not required.

SREC	34	S		JTC	H13	859

Step 1
Insert Code Series
SREC

Step 2
Number of Contacts
7, 11, 14, 18, 20, 26, 34, 44, 50

Step 3
Contact Designation
P - Pin Molding
S - Socket Molding

Step 4

Contact Wire Size
Omit this step if contacts are
to be ordered separately

Use only when contacts are supplied with connector
Add "20" for 20-22 AWG
Add "24" for 24-26 AWG
Add "28" for 28-30 AWG

Step 7
For 2-56 UNC 2A Threads
on Jackscrews, add suffix
-859. Omit if not req'd.

Step 6
Hoods

H8 -	Large Top Opening (50 size only)
H9 -	Large Side Opening (50 size only)
H13 -	Higher Top Opening (all others)

See Hood Section for Availability.

Step 5

Guides

K -	Beryllium Copper Cylindrical Guides
N -	Brass Cylindrical Guides (Standard)
NSS -	Same Style as Above but Stainless Steel

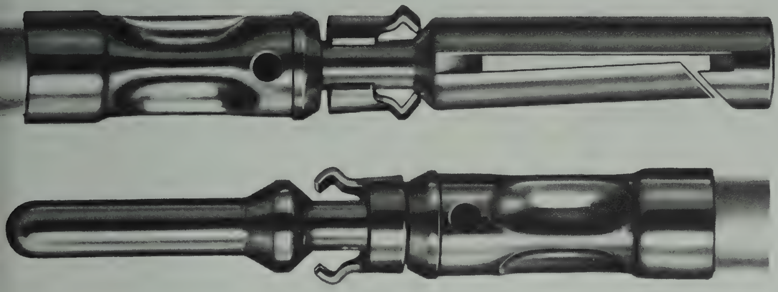
Jackscrew Locks

J -	Polarized Fixed Screw and Socket
JT -	Polarized Short Turning Screw and Socket
JTC -	Polarized Long Turning Screw and Socket

Removable Contacts

Series 100

6 X ACTUAL SIZE



TYPICAL REMOVABLE CONTACT

Winchester Electronics removable contacts allow quick, easy removal and replacement of any contact without disturbing another - and without discarding the connector. They offer exceptional flexibility in both the choice and revision, of circuitry for rack and panel equipment ... at substantial savings in replacement and installation time. In addition, wiring costs are significantly lowered, as wires may be assembled away from the connector itself. Assembly of contacts to wires is further simplified by crimp type contacts. A contact is slipped on the wire, inserted in the crimping tool and crimped securely in place in seconds. Compact, and self-aligning, these removable contacts provide high retention force and exceptional mechanical and electrical reliability. Solder type removable contacts are available for connectors using MRAC contacts.

Specifications

Pin Contacts: Leaded commercial bronze.

Socket Contacts: Closed entry type machined from leaded commercial bronze, gold plated.

Crimping Tools: Complete line available. Includes automatic pneumatic, pneumatic hand operated, and hand operated crimping tools.

Insertion and Removal Tools:

Military Specifications: Conforms to applicable portions of MIL-C-39029.

Wire Sizes: From a minimum 28 to a maximum 14 AWG. All contacts are designed to accept a minimum AWG conductor up to two sizes below maximum gage (each contact).

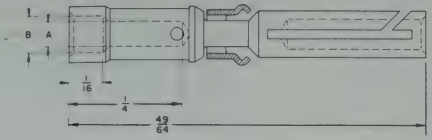
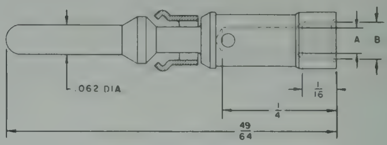
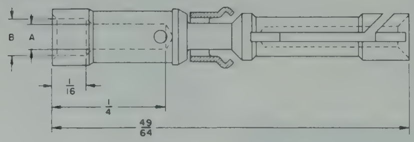
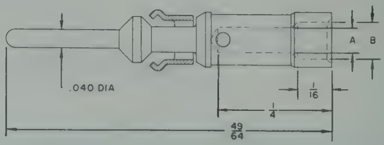
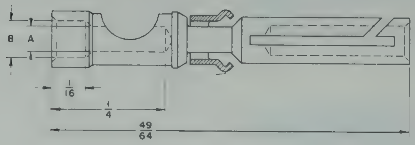
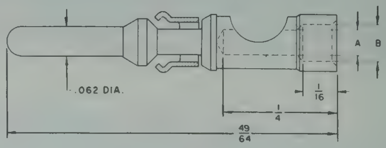
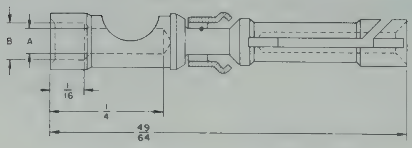
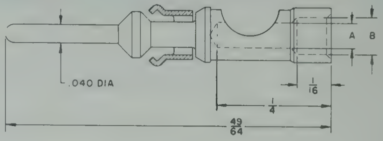
Termination Types: Crimp, solder, dip solder or wire-wrap.

Current Rating: 7.5 Amps maximum for .040 contacts. 13 Amps maximum for .062 contacts.

Contact Plating: Standard plating is .000015 gold over .0001 copper.

To Order:
Specify by Catalog Number.

Note: Series 100 Removable Contacts are not supplied with the connector. They must be ordered as a separate item.

Contact Type	Socket Contacts (S)	Pin Contacts (P)
MRAC **Crimp** 13 Amp		
MRAC **Crimp** 7.5 Amp		
MRAC **Solder** 13 Amp		
MRAC **Solder** 7.5 Amp		

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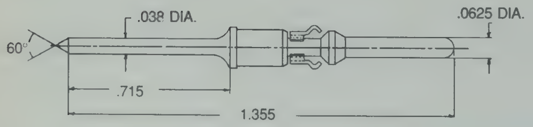

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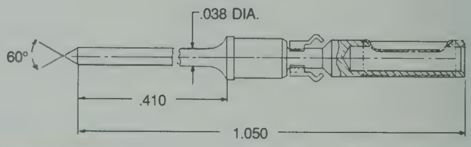
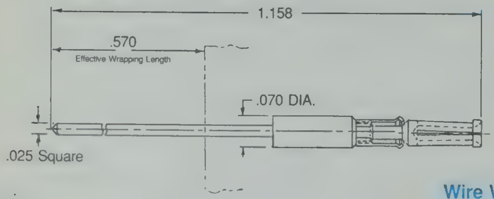


Dip Solder Contacts For MRAC Series

8123



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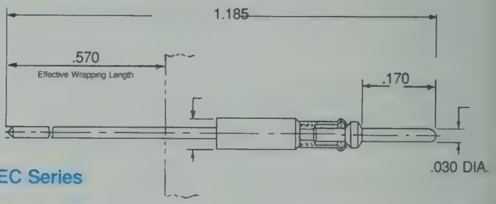


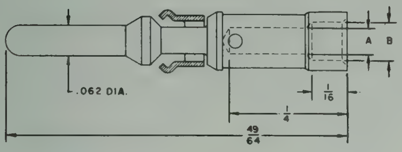
Wire Wrap Contacts For SREC Series

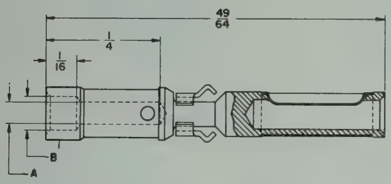
Wire Wrap Contacts For MRAC Series

8113	.025 sq.	w/w socket
8114	.025 sq.	w/w pin
8105	.045 sq.	w/w socket
8106	.045 sq.	w/w pin

MIL-C-39029 CONTACTS

MIL-C-39029 NO.	CATALOG NO.	A	B	C
M39029/34-273	100B-1016P95	.067	.092	.110
M39029/34-272	100R-1020P95	.045	.067	.077

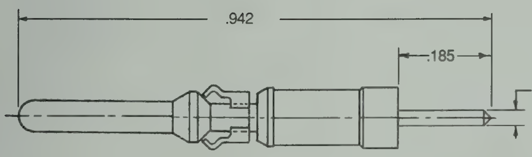




MIL-C-39029 NO.	CATALOG NO.	A	B
M39029/35-276	100B-51016S95	.067	.092
M39029/35-275	100R-51020S95	.045	.077

CONTACT WIRE BARREL DIMENSIONS

For Use with Series	Catalog No. P=Pin/S=Socket	Max Wire Size (Stranded)	A	B
MRAC, XAC, 40, CAC CRIMP	100-1014P/S	14	.081	.105
	100-1016P/S	16	.067	.097
	100-1020-P/S	20	.045	.065
	100-1024P/S	24	.027	.055
MRAC, XAC, 40, CAC CRIMP	100-2016P/S	16	.067	.096
	100-2020P/S	20	.045	.065
	100-2024P/S	20	.027	.055
MRAC, XAC, 40, CAC SOLDER	100-2514P/S	14	.081	.105
	100-2516P/S	16	.067	.097
	100-2520P/S	20	.045	.065
	100-2524P/S	24	.027	.055
MRAC, XAC, 40, CAC SOLDER	100-2616P/S	16	.067	.096
	100-2620P/S	20	.045	.065
	100-2624P/S	24	.027	.055



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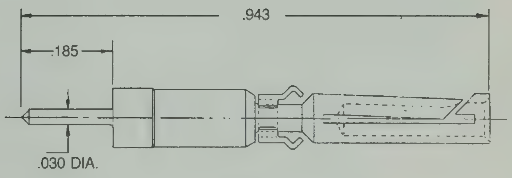
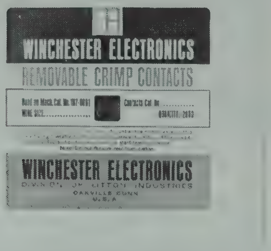


8125

Dip Solder Contacts For MRAC Series

For Use On Semi-Automatic Crimping Tool - Bench Mounted Crimping Tool



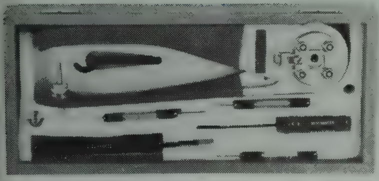
2000 Contacts per Reel

Used on Tool No. 107-0961

Contact Catalog Number	Reel Contact Number	Gage Part Number	Conductor Size Accom-modation
100-1014 Pin	100-0909 P	5431-14	14-16
100-1014 Socket	100-0919 S	5431-14	14-16
100-1016 Pin	100-0911 P	5431-14	16-18-20
100-1016 Socket	100-0921 S	5431-14	16-18-20
100-1018 Pin	100-0913 P	5431-14	18-20-22
100-1018 Socket	100-0923 S	5431-14	18-20-22
100-1020 Pin	100-0915 P	5431-15	20-22-24
100-1020 Socket	100-0925 S	5431-15	20-22-24
100-1022 Pin	100-0907 P	5431-15	22-24-26
100-1022 Socket	100-0908 S	5431-15	22-24-26
100-1024 Pin	100-0917 P	5431-15	24-26-28
100-1024 Socket	100-0927 S	5431-15	24-26-28

Contact Catalog Number	Reel Contact Number	Gage Part Number	Conductor Size Accom-modation
100-2016 Pin	100-0949 P	5431-14	16-18-20
100-2016 Socket	100-0939 S	5431-14	16-18-20
100-2018 Pin	100-0943 P	5431-14	18-20-22
100-2018 Socket	100-0933 S	5431-14	18-20-22
100-2020 Pin	100-0945 P	5431-15	20-22-24
100-2020 Socket	100-0935 S	5431-15	20-22-24
100-2022 Pin	100-0947 P	5431-15	22-24-26
100-2022 Socket	100-0937 S	5431-15	22-24-26
100-2024 Pin	100-0951 P	5431-15	24-26-28
100-2024 Socket	100-0941 S	5431-15	24-26-28

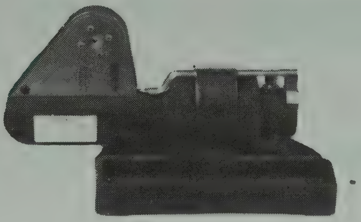
Pneumatic, Hand Pneumatic and Hand Operated Crimping Tools



TOOL KIT

Catalog No. 107K4

Includes crimping tool 107-0903-2A, locator 107-0945, insertion tool 107-1015, removal tool 107R-1001, spanner wrench 107-1102 and go/no-go gages 5431.

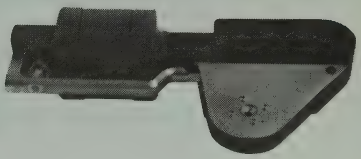


PNEUMATIC HAND CRIMPING TOOL

400 CRIMPS PER HOUR

Catalog No. 107-0918

Requires 80/120 psi. Crimp depth adjustment made by internal screw. Locators, adaptor sleeves, and gage plugs should be ordered separately. Locator 101-0945 and adaptor 107-0950 supplied with tool.



PNEUMATIC HAND CRIMPING TOOL

400 CRIMPS PER HOUR

Catalog No. 107-0919

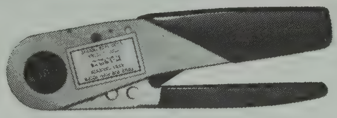
Requires 80/120 psi. Crimp depth adjustment made by internal screw. Gage plugs should be ordered separately. Locator 101-0945 and adaptor 107-0950 supplied with tool.

AUTOMATIC FEED CRIMPING TOOL

600/1200 CRIMPS PER HOUR

Catalog No. 107-0961

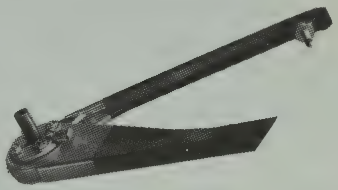
Air operated tool provides for a large capacity reel and foot valve control. Crimp depths are accurately controlled by interchangeable snap-in depth blocks when the tool is bench mounted. Leaves operator's hands free. (Does not include reel or foot valve control.)



MINIATURE ADJUSTABLE CRIMPING TOOL

Catalog No. 107-0610

The adjustment permits an individual crimp setting for each wire size, providing optimum performance in every case. Recommended settings are provided on each positioner (order separately). Adjustment is simple and quick, and may be safety wired after setting is made. It is particularly good for the SREC and other miniature contacts.



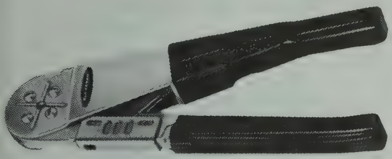
HAND OPERATED CRIMPING TOOL

200/300 CRIMPS PER HOUR

Catalog No. 107-0903-2A

(Mil-T-22520 Class II Equiv.)

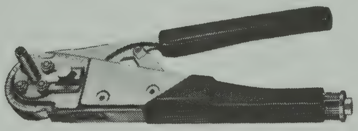
Gage plugs should be ordered separately. Locator 107-0945 supplied with tool.



MINIATURE HAND OPERATED CRIMPING TOOL

Catalog No. 107-43300

This miniature version of the MS crimping tool is suited for the smaller crimp contacts such as the SREC series. It is only 7 ½" long and weighs 10 ½ oz. Positioners are ordered separately.



MINIATURE HAND OPERATED CRIMPING TOOL

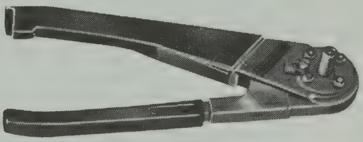
Catalog No. 107-0625

An improved version of the above miniature tool with a continuously variable crimp depth adjustment. Locators must be ordered separately.

HAND OPERATED CRIMPING TOOL

Catalog No. 107-43330

Non-adjustable shielded outer contact crimping tool. No positioners or locators required.



HAND OPERATED CRIMPING TOOL

200 / 500 CRIMPS PER HOUR

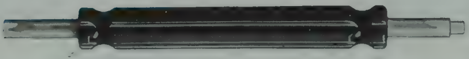
Catalog No. 107-0970

MS-3191-2 (Mil-T-22520 Class I)

Ruggedly built hand tools with forged body, and four indentors machined from high grade tool steel. Size approx. 9" long. Weight approx. 19 oz.

Crimping Tools & Accessories

Tool Accessories

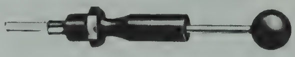


Catalog No. 107-0701 for MRE / MRA / MRAC G7 / N7 Guide
Catalog No. 107-0704 for MRE 5-3, 8 / SMRE / SRE / SREC N Guide

Catalog No. 107-0703 for MRE / MRA / MRAC (hex size 3/16)
Catalog No. 107-0708 for MRE 5-3, 8 / SMRE / SRE / SREC (hex size 5/32)

Removable Contact Insertion Tools

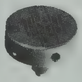
Catalog No.	Series
107-1011	SREC
107-1015	MRAC / STD & SHIELDED



Removable Contact Removal Tool

Catalog No.	Series
107R1001	MRAC / STD
107-1005	MRAC / STD & SHIELDED
107-1012	SREC

LOCATORS

Catalog Number	Used with		
	Contact	Tool	
107-0626	SREC	107-0625	
107-0627	MRAC (INNER) SHIELDED		
107-0628	MRAC 20,22,24,26		
107-0945	MRAC	107-0902 and 107-0903-2A	
107-43302	MRAC (OUTER) SHIELDED		
107-0612	MRAC (INNER) SHIELDED	107-0610	
107-0611	SREC #20 and #24	107-0610	

POSITIONERS

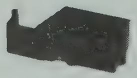
Catalog Number	Used with		
	Contact	Tool	
107-0981	MRAC Pin & Socket #14 & 16	107-0970	
107-0977	MRAC Pin & Socket #16 & 18		
107-0976	MRAC Pin & Socket #20,22,24 &26		
107-0994	SREC #20 & 24		
107-0992	MRAC (INNER) SHIELDED	107-43300	
107-0993	MRAC #20 #22, #24 #26		

BENCH MOUNT FOR CRIMPING TOOL 107-0960
Includes crimp depth blocks below.
Catalog No. 107-0962

CONTACT PIN STRAIGHTENER

Used on .040 or .062 dia.
Catalog No. 107-1024

CRIMP DEPTH BLOCKS FOR CRIMPING TOOLS 107-0960 & 107-0961



Catalog No.
107-0965-#20
107-0966-#16
107-0967-#12

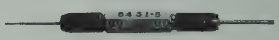
Guide Set Tool

This tool provides fast and easy installation of G7 and N7 Guide Sets. Screwdriver type tips are enclosed by cylindrical aligners that hold tips in place in the Guide pin and socket slots to prevent slippage. Tool holds pin or socket in place while hex nut is tightened.

Hex Wrench

This tool provides fast and easy installation of guides and fixed jacks. This tool may be used with the guide set tool shown above.

GAGE PLUG
Catalog No. 5431

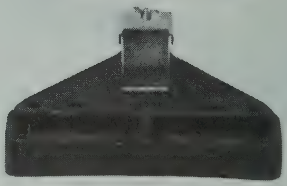


When ordering gage plugs, specify:
1) Tool 2) Contact size 3) Wire Size.

ADAPTOR SLEEVE
Catalog No. 107-0950

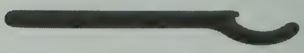
Use only with
Pneumatic Hand Tool 107-0902

BENCH MOUNT
FOR CRIMPING TOOL 107-0902



Catalog No. 107-0917

SPANNER WRENCH



For use with 107-0903-2A Crimping Tool
Catalog No. 107-1102

Crimping Tools Versus Removable Contact Reference Chart

Contact Cat. No.	POSITIONER / LOCATOR	STYLE	CRIMPING TOOL	STYLE
100-4020 P/S	107-0603	SREC	107-0610	MINIATURE HAND CRIMP
100-4024 P/S	107-0611	SREC		
100-800* P/S (INNER)	107-0612	MRAC SHIELDED		
100-10P/S**	107-0945/107-0950	MRAC 13 AMP	107-0919 (107-0918)	PNEUMATIC HAND OR BENCH MT.
100-20P/S**		MRAC 7.5 AMP		
100-8000 P/S (OUTER)	107-0944/107-0950	MRAC SHIELDED		
100-10P/S**	107-0945	MRAC 13AMP	107-0903-2A	HAND CRIMP
100-20P/S**		MRAC 7.5 AMP		
100-8000P/S (OUTER)	107-0944	MRAC SHIELDED		
100-10P/S**	MAGAZINE OR CRIMP DEPTH BLOCK	MRAC 13AMP	107-0960	PNEUMATIC SEMI-AUTOMATIC
100-20P/S**		MRAC 7.5 AMP		
100-10P/S**	CRIMP DEPTH BLOCK	MRAC 13 AMP	107-0961	PNEUMATIC AUTOMATIC
100-20P/S**		MRAC 7.5 AMP		
100-1014, 16 P/S	107-0981	MRAC 13 AMP	107-0970	NON-ADJUSTABLE HAND CRIMP MS-3191-2
100-2014, 16 P/S		MRAC 7.5 AMP		
100-1016, 18 P/S	107-0977	MRAC 13 AMP		
100-2016, 18 P/S		MRAC 7.5 AMP		
100-1020,22,24,26 P/S	107-0976	MRAC 13 AMP		
100-2020,22,24,26 P/S		MRAC 7.5		
100-4024P/S	107-43302	SREC	107-43300	NON-ADJUSTABLE MINIATURE HAND CRIMP
100-4020P/S		SREC		
100-800* P/S (INNER)	107-43303	MRAC SHIELDED		
100-1020, 22 P/S	107-43304	MRAC 13 AMP		
100-1024, 26 P/S				
100-1024, 26 P/S				
100-2020, 22 P/S		MRAC 7.5 AMP		
100-2024, 26 P/S				
100-4024P	107-0626	SREC	107-0625	ADJUSTABLE MINIATURE HAND CRIMP
100-4024S				
100-800* P/S (INNER)	107-0627	MRAC SHIELDED		
100-1020,22 P/S	107-0628	MRAC 13 AMP		
100-1024, 26 P/S				
100-2020, 22 P/S		MRAC 7.5 AMP		
100-2024, 26 P/S				
100-8001 P/S (OUTER)	LOCATORS OR POSITIONERS NOT REQUIRED	MRAC SHIELDED	107-43330	NON-ADJUSTABLE HAND CRIMP
100-8003 P/S (OUTER)				

*All Sizes

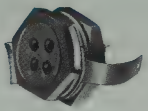
** Optional Wire Sizes

Decimal Equivalent Chart

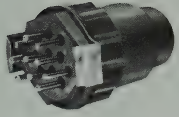
Standard Conversion Table

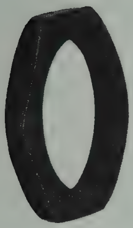
4ths	8ths	16ths	32nds	64ths	To 4 PLACES	To 3 PLACES	To 2 PLACES
				1/64	.0156	.016	.02
			1/32		.0312	.031	.03
				3/64	.0469	.047	.05
		1/16			.0625	.063	.06
				5/64	.0781	.078	.08
			3/32		.0938	.094	.09
				7/64	.1094	.109	.11
	1/8				.1250	.125	.13
				9/64	.1406	.141	.14
			5/32		.1562	.156	.16
				11/64	.1719	.172	.17
		3/16			.1875	.188	.19
				13/64	.2031	.203	.20
			7/32		.2188	.219	.22
				15/64	.2344	.234	.23
1/4					.2500	.250	.25
				17/64	.2656	.266	.27
			9/32		.2812	.281	.28
				19/64	.2969	.297	.30
		5/16			.3125	.313	.31
				21/64	.3281	.328	.33
			11/32		.3438	.344	.34
				23/64	.3594	.359	.36
	3/8				.3750	.375	.38
				25/64	.3906	.391	.39
			13/32		.4062	406	.41
				27/64	.4219	.422	.42
		7/16			.4375	.438	.44
				29/64	.4531	.453	.45
			15/32		.4688	.469	.47
				31/64	.4844	.484	.48
					.5000	.500	.50
				33/64	.5156	.516	.52
			17/32		.5312	.531	.53
				35/64	.5469	.547	.55
		9/16			.5625	.563	.56
				37/64	.5781	.578	.58
			19/32		.5938	.594	.59
				39/64	.6094	.609	.61
	5/8				.6250	.625	.63
				41/64	.6406	.641	.64
			21/32		.6562	.656	.66
				43/64	.6719	.672	.67
		11/16			.6875	.688	.69
				45/64	.7031	.703	.70
			23/32		.7188	.719	.72
				47/64	.7344	.734	.73
3/4					.7500	.750	.75
				49/64	.7656	.766	.77
			25/32		.7812	.781	.78
				51/64	.7969	.797	.80
		13/16			.8125	.813	.81
				53/64	.8281	.828	.83
			27/32		.8438	.844	.84
				55/64	.8594	.859	.86
	7/8				.8750	.875	.88
				57/64	.8906	.891	.89
			29/32		.9062	.906	.91
				59/64	.9219	.922	.92
		15/16			.9375	.938	.94
				61/64	.9531	.953	.95
			31/32		.9688	.969	.97
				63/64	.9844	.984	.98
					1.0000	1.000	1.00

Plug with
Lock Spring and Hood
M4P-LSH10


Receptacle with Lock Ring,
Ground Lug and Nut
M4S-LRGN

Receptacle with
Lock Ring and Nut
M10S-LRN


Plug with
Lock Spring and Hood
M10P-LSH 19


N
Nylon Nut

M12S-LS12
Receptacle with
Lock Spring

M12P
Plug

M12H
Hood with
Lock Shell

The extreme compactness and lightweight of M connectors make them ideal for such applications as strain gauges, telemetry and pressure pick-up installations in aircraft, portable equipment and instrumentation.

Specifications

Current Rating: 7.5 amps

No. of Contacts: 4, 5, 7, 9, 10, 12

Pin Contacts: .040 dia. brass, gold plated

Socket Contacts: Spring temper phosphor bronze, gold plated

Terminations: .048 dia. solder cup accepts up to #20 AWG stranded wire. M12 - .043 dia. solder cup accepts up to #20 AWG stranded wire.

Electrical Data: The dielectric withstanding voltage is one minute electrification at 1500 VAC (2250 VAC for M12).

Dielectric: Mineral Filled Diallyl Phthalate

Polarization: Body design permits engagement in proper position only.

Mounting: For 1/16" panel mounting of either plug or receptacle use cadmium plated brass nut for M4-10, nylon nut for M12. Add "N" to code number.

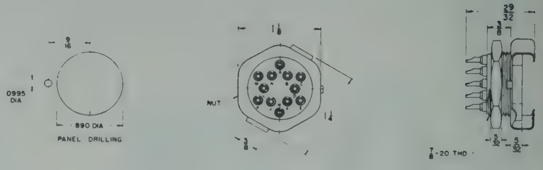
Lock Ring (and lock spring): May be applied to plug or receptacle to stop connector rotation on panel. When engaged with lock spring, prevents accidental disconnection from vibration, etc.

Ground Lug: Can be used to ground any of the 4 contacts on M4 connector. Add "G" to code number.

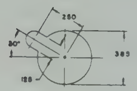
Hoods: Anodized aluminum or diallyl phthalate hoods may be applied to plug or receptacle of M4-M10. With or without cable clamps to provide additional strain relief for the cable.

PHYSICAL AND ELECTRICAL DATA

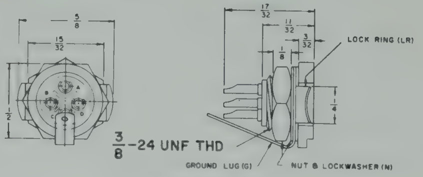
Catalog No.	No. of Contacts	Weight in Ounces						Solder Cup Hole Dia. in.	Current Rating
		Plug	Rec.	Nut	Lock Spring	Lock Ring	Lock Washer		
M4P M4S	4	.08	.06	.08	.02	.02	.01	.048	7.5 amps
M5P M5S	5	.10	.08	.06	.02	.03	.01	.048	7.5 amps
M7P M7S	7	.12	.10	.06	.02	.03	.01	.048	7.5 amps
M9P M9S	9	.13	.10	.06	.02	.03	.01	.048	7.5 amps
M10P	10	.13	.10	.06	.02	.03	.01	.048	7.5 amps
M12P M12S	**12**	**.3**	**.4**	**.05**	**.02**	**.03**	**.01**	**.043**	**7.5 amps**



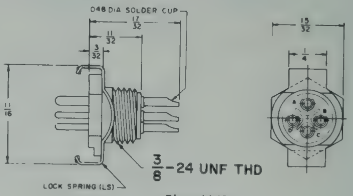
M12S



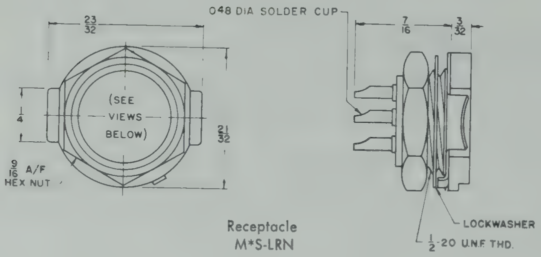
Panel Drilling



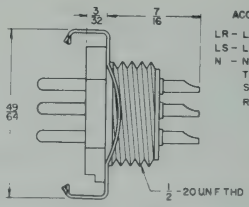
Receptacle M4S-LRGN



Plug M4P-LS

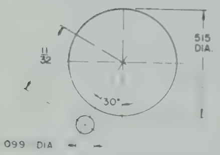


Receptacle M*S-LRN

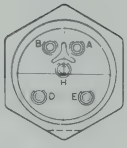


Plug M*P-LS

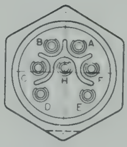
ACCESSORY CODE
LR – LOCK RING
LS – LOCK SPRING
N – NUT & LOCKWASHER
TO BE USED AS SUFFIXES WHEN REQUIRED



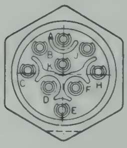
Panel Drilling (Viewed from Front of Panel)



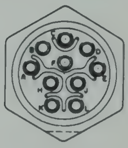
Contact Arrangement M5S



Contact Arrangement M7S



Contact Arrangement M9S



Contact Arrangement M10S

Contact Locations Are Shown from Terminal Sides

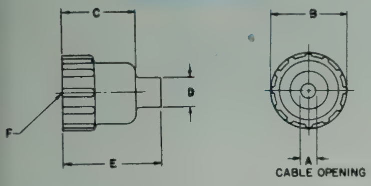
Note–Contact Arrangement of M*P Are Reversed

*Insert Number, indicating number of Contacts (5, 7, 9, 10)

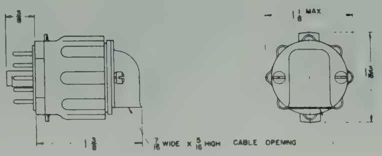
Molded Diallyl Phthalate and Aluminum Hoods

Dimensions are for reference and are subject to change. Outline drawings on request.

standard hoods

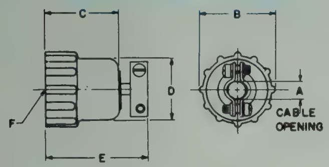


H9, H10, H19



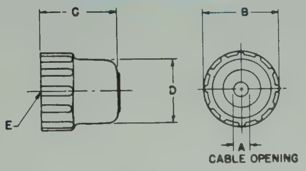
M12H

hoods with cable clamps



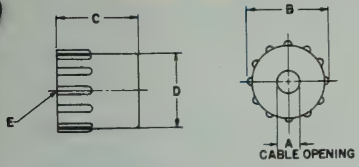
H9C, H10C, H19C, H19CS

modified hoods



H9S, H19S

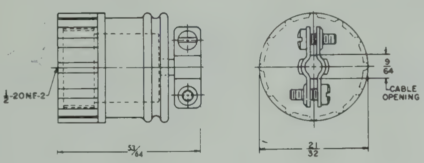
special hoods



HG9, HG18

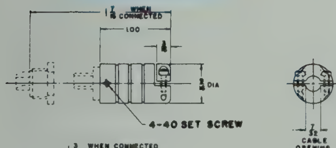
special hood with cable clamp

Used on Connectors M5, M7, M9, M10

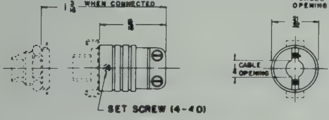


HG9C

aluminum hoods



H14
For M4



H16
For M5, M7, M9, M10

Molded Diallyl Phthalate cable hoods protect soldered wires and facilitate disengagement of connectors. Cable Clamps provide additional strain relief and support. They are supplied on hoods with "C" in the code number. Clamps are cadmium plated with olive drab iridite finish.

Anodized aluminum hoods are precision machined from bar stock to give greater strength than die cast units. Cable clamps are machined as an integral part of the connector. The set screw prevents accidental disassembly from vibration etc. A polyethylene sleeve liner provides added insulation in the terminal area.

Ordering Information

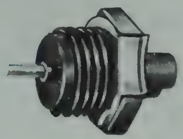
When ordering, specify a complete part no. by following steps 1 through 7. Omit steps not required.

#1 - M
#2 - No. of contacts; 4,5,7,9,10,12
#3 - P-Pin, S-Socket
#4 - LS for lock spring
  LR for lock ring
  LS6 for M12 lock spring
  LR6 for M12 lock ring
  LS12 lock spring for M12H hood
#5 - N-nut
#6 - G-Ground Lug (M4 only)
#7 - Hoods

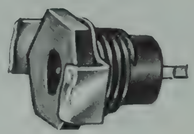
Hood Code No.	Used On Connectors	DIMENSIONS							Wt. in Ounces
		A	B	C	D	E	E-Thds	F-Thds	
H9	M5, 7, 9, 10	9/64	21/32	21/32	17/64	7/8		1/2 - 20	.10
H10	M4	5/32	9/16	11/16	1/4	3/4		3/8 - 24	.05
H19	M5, 7, 9, 10	19/64	21/32	21/32	27/64	7/8		1/2 - 20	.08
H9C	M5, 7, 9, 10	5/32	21/32	25/32	35/64	31/32		1/2 - 20	.11
H10C	M4	3/16	9/16	11/16	7/16	7/8		3/8 - 24	.09
H19C	M5, 7, 9, 10	19/64	21/32	25/32	35/64	31/32		1/2 - 20	.12
H19CS	M5, 7, 9, 10	19/64	21/32	21/32	35/64	55/64		1/2 - 20	.11
H9S	M5, 7, 9, 10	9/64	21/32	21/32	35/64		1/2 - 20		.07
H19S	M5, 7, 9, 10	19/64	21/32	21/32	35/64		1/2 - 20		.06
HG9	M5, 7, 9, 10	7/32	21/32	21/32	19/32		1/2 - 20		.10
HG18	M5, 7, 9, 10	9/32	21/32	21/32	19/32		1/2 - 20		.11
HG9C	M5, 7, 9, 10	See drawing							.14
H14	M4	See drawing							.25
H16	M5, 7, 9, 10	See drawing							.25
M12H	M12	See Drawing							1.10

Dimensions are for reference only and are subject to change. Outline drawings on request.

N
Nylon Nut

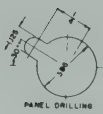


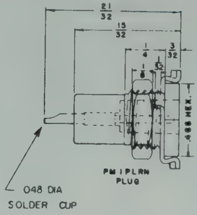
PM1SLR
Plug with Lock Ring

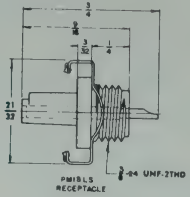


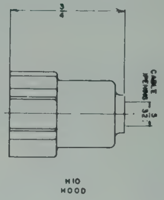
PM1PLS
Receptacle with Lock Spring

H10
Hood









For the PM1: Developed for applications requiring moderately high voltage ratings, this single contact connector is particularly well adapted to Photo-Flash, Aircraft, Instrumentation and Communications Equipment.

Specifications

Current Rating: 7.5 amps

No. of Contacts: 1

Pin Contacts: .040 dia. brass, gold plated

Socket Contacts: Phosphor bronze, gold plated

Terminations: .048 solder cup will accept up to #20 AWG stranded wire.

Electrical Data: Dielectric withstanding voltage is one minute electrification at 5650 VAC.

Dielectric: Molded Diallyl phthalate per MIL-M-14.

Polarization: Permits one engaging position only and prevents rotation of the plug and receptacle with respect to each other.

Mounting: Cable or panel mounted. Use nylon nut applied to either plug or receptacle.

Lock Ring (and lock spring): Applied to plug or receptacle. Prevents connector rotation on panel and when engaged with lock spring, prevents accidental disconnection due to vibration, etc.

Hood: Diallyl Phthalate cable hood.

Code Numbers:

PM1PLR - Connector, plug with lock ring
PM1SLS - Connector, receptacle with lock spring
PM1PLS - Connector, plug with lock spring
PM1PLR - Connector, receptacle with lock ring
PM1P - Connector plug without vibration lock
PM1S - Connector receptacle without vibration lock
Add H10 to above numbers when ordering hoods
Add "N" to above numbers when ordering nylon nut.

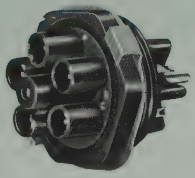
Weight in Ounces: Receptacle .05, Plug .05, Washer .005, Hood .07, Lock Ring .017, Lock Spring .019, Nut .015.

HV Min. #20 Cts. .040" Dia. 7.5 Amps

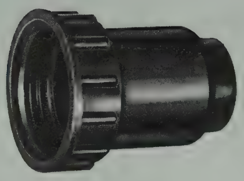
Series PM6

N
Nylon Nut

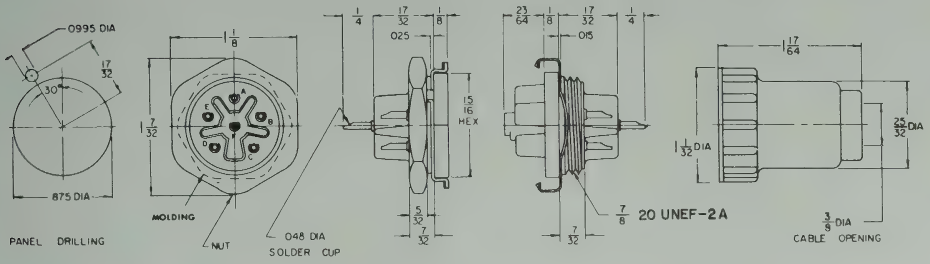
PM6S-LR
Receptacle with lock ring



PM6P-LS
Plug with lock spring



PM6H
Hood



For the PM6: Developed for applications requiring moderately high voltage ratings, this connector of minimum bulk and weight is particularly well adapted to Photo-Flash, Aircraft, Instrumentation, and Communications Equipment.

Specifications

Current Rating: 7.5 amps

No. of Contacts: 6

Pin Contacts: .040 dia. brass, gold plated

Socket Contacts: Spring temper phosphor bronze, gold plated

Terminations: .048 dia. solder cup accepts up to #20 AWG stranded wire.

Electrical Data: Dielectric withstanding voltage is one minute electrification at 3560 VAC.

Dielectric: Molded Diallyl Phthalate per MIL-M-14

Polarization: Body design makes it impossible to make connection except in proper position.

Mounting: Cable or panel mounted. Use nylon nut applied to either plug or receptacle.

Lock Ring (and lock spring): Prohibits connector rotation on panel mounting and when engaged with lock spring, prevents accidental disconnection due to vibration, etc.

Hood: Molded diallyl phthalate cable hood may be applied to either plug or receptacle.

Code Ordering:

PM6PLS - Connector, plug with lock spring
PM6SLR - Connector, receptacle with lock ring
PM6PLR - Connector plug with lock ring
PM6SLS - Connector, receptacle with lock spring
Add H to code numbers for hood
Add N to code number for nylon nut

PM6P - Connector plug without vibration lock
PM6S - Connector receptacle without vibration lock.

Extreme compactness and lightweight of these subminiature connectors make them ideal for limited space application in Aircraft, Portable Equipment and Instrumentation.

Specifications

[illegible] voltage
[illegible] C.

[illegible] 14 Type

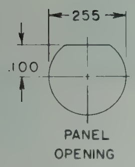
[illegible] gagement in

[illegible] be
[illegible] - 28
[illegible] ode

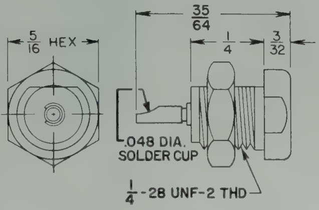
[illegible] plug
[illegible]

General Outline Drawings

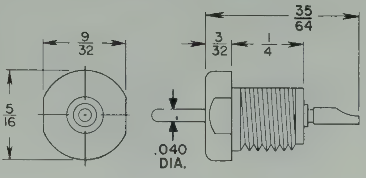
Dimensions are for reference only and are subject to change. Outline drawings on request.



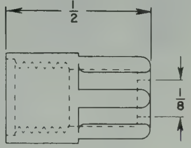
PANEL OPENING



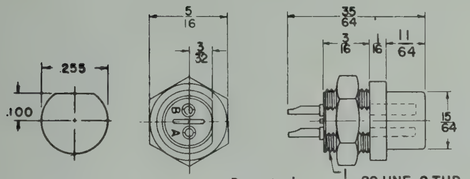
Receptacle SM1SN



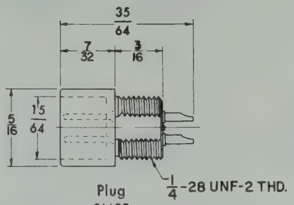
Plug SM1P



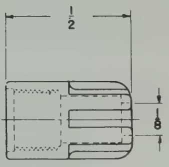
Hood



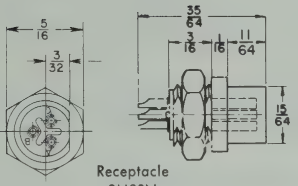
Receptacle SM2SN



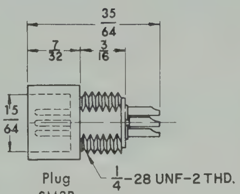
Plug SM2P



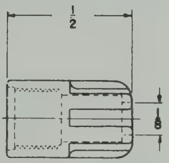
Hood



Receptacle SM3SN



Plug SM3P



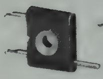
Hood

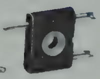
Current Rating	Wt. in Oz. P.	Wt. in Oz. R.	*Wire Range
SM1 - 7.5 Amp	.02	.02	SM1 - #20
SM2 - 3 Amp	.02	.02	SM2 - #24
SM3 - 3 Amp	.02	.02	SM3 - #24

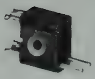
*Stranded

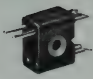
JF Series

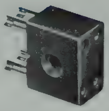
#20 Cts. .040" Dia. 7.5 Amps Min. Side Mount

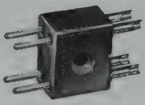

JF1S-1PB

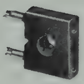

JF1P-1SB

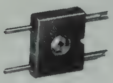

JF2S-2P-CD

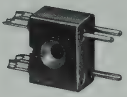

JF2P-2S-CD

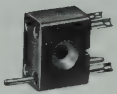

Receptacle
JF2S-2S

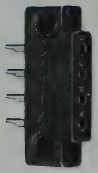

Plug
JF2P-2P

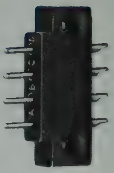

Receptacle
JF-2S

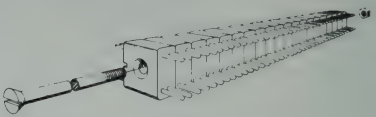

Plug
JF-2P


JF1S-3PB


JF1P-3SB


Receptacle
JF-4S


Plug
JF-4P


JF-2P
(20 connectors assembled)

The versatile JF Series has a countersunk side mounting hole and narrow width permitting exceptionally flat mounting. Maximum circuit density is provided with many positive polarizations. "Custom" multi-contact connectors are readily available by using the building block technique shown above.

Specifications

Current Rating: 7.5 Amps

No. Of Contacts: 2, 4

Pin Contacts: .040 dia. brass, gold plated

Socket Contacts: Spring temper phosphor bronze, gold plated

Electrical Data: Minimum dielectric withstanding voltage is one minute electrification at 1500 VAC.

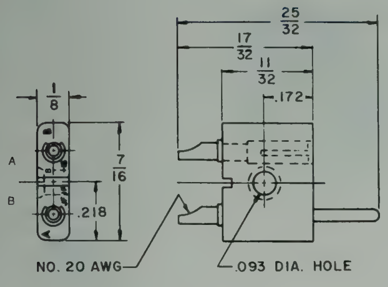
Terminations: .048 solder cup will accept up to #20 AWG stranded wire.

Dielectric: Molded Diallyl Phthalate

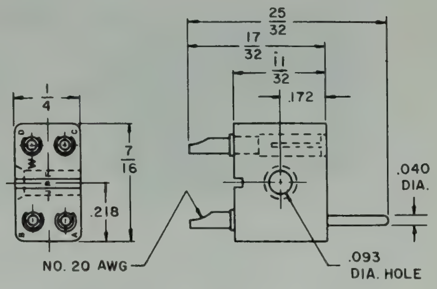
Polarization: Reversed pin and socket assembly for JF1P-1S-A and JF2P-2S-AB. Contact arrangement provides polarization for JF3P-1S-ABC and JF3S-1P-ABC. For JF4, a socket contact may be reversed to assure positive polarization. JF2P and JF2S, JF2P-2P are not polarized.

General Outline Drawings

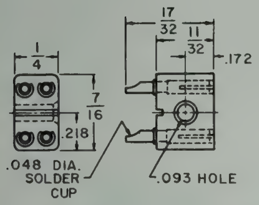
Dimensions are for reference only and are subject to change.



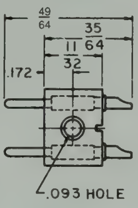
JF1P-1S-A



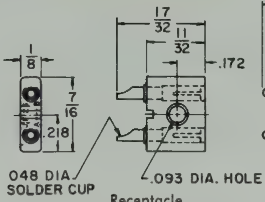
JF2P-2S-AB



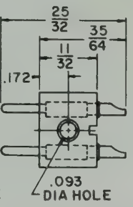
Receptacle
JF2S-2S



Plug
JF2P-2P

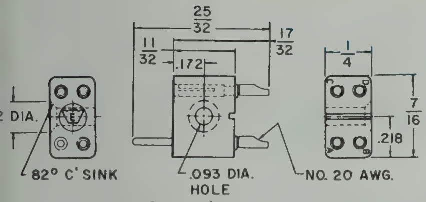


Receptacle
JF2S

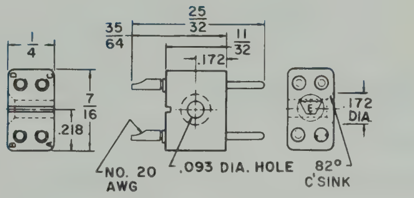


Plug
JF2P

WEIGHT IN OUNCES				
.03 Ounces	.05 Ounces	.06 Ounces	.09 Ounces	.10 Ounces
JF1P-1S-A	JF2S-2S	JF2P-2S-AB	JF-4S	JF-4P
	JF3S-1P-ABC			
JF-2P		JF2P-2P		
JF-2S		JF3P-1S-ABC		
Wire Size A.W.G. : #20				



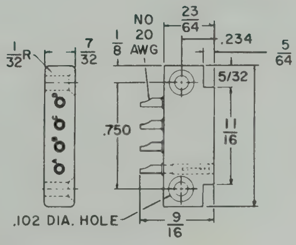
Receptacle
JF3S-1P-ACD

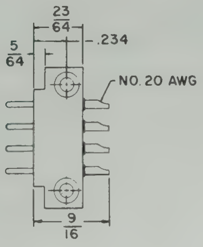


Plug
JF3P-1S-ACD

To order a JF4P with 1 pin contact in "A" position & socket contacts in "B, C & D" positions, use P/N JF4PA. With 1 socket in "A" position & pins in "B, C & D" use P/N JF4PBCD.

Receptacle
JF-4S

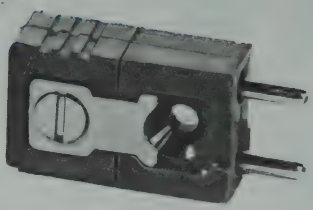


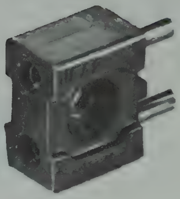


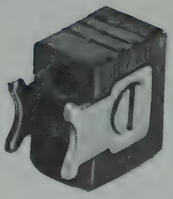
Plug
JF-4P

JFA Series

#16 Cts. .062" Dia. 13 Amps Min. Side Mount


Hood and Plug
JFA2H — JFA2P


Receptacle
JFA2S


Hood
JFA2H

For Applications in Electronic and Communications Equipment Requiring Miniature Connectors with High Current Capacity

Series JFA miniature connectors may be used in Television, Radio and Communications equipment. The countersunk side mounting hole and narrow width permits exceptionally flat mounting - thereby minimizing connector protrusion when installed on equipment.

Specifications

Current Rating: 13 amps

No. of Contacts: 2

Pin Contacts: .062 dia. brass, gold plated

Socket Contacts: Spring temper phosphor bronze, gold plated

Terminations: .070 dia. solder cup will accept up to #16 AWG stranded wire

Electrical Data: Dielectric withstanding voltage is one minute electrification at 2925 VAC.

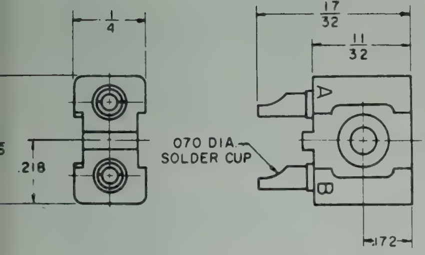
Dielectric: Molded Diallyl phthalate per MIL-M-14.

Hood: Locked to connector by means of two side mounted straps.

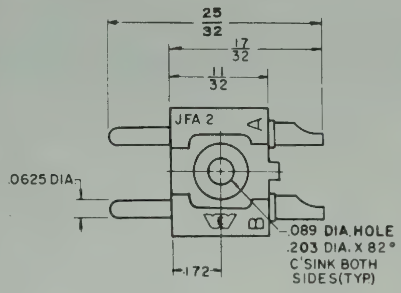
Physical and Electrical Data, General Outline Drawings

Dimensions are for reference only and are subject to change.

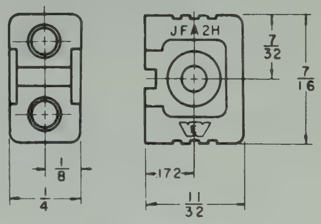
Dimensions and Mating Combinations



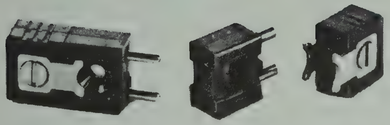
JFA 2S



JFA 2P



JFA 2H Hood



MATING COMBINATIONS

JFA2P	mates with	JFA2S
JFA2PH	mates with	JFA2SH
JFA1P1S-A	mates with	JFA1S1P-A
JFA1P1S-B	mates with	JFA1S1P-B
JFA1P1SH-A	mates with	JFA1S1PH-A
JFA1P1SH-B	mates with	JFA1S1PH-B

-A and -B letters above designate pin location for left column and socket location for right column.

PHYSICAL DATA

Code No.	Number of Contacts	Current Rating Amps	Wire Size A.W.G.	Weight Ozs.
JFA 1P1S	1 pin 1 socket	13	#16	.082
JFA 2PH JFA 2SH (with hoods)	2 pins 2 sockets			.059 .046
JFA 1S1P	1 pin 1 socket	13	#16	.082
JFA 2P JFA 2S (no-straps - no hoods)	2 pins 2 sockets			.059 .046

JFA2H — Hood — used on any of above 3 parts.

Decimal Equivalent Chart

Standard Conversion Table

4ths	8ths	16ths	32nds	64ths	To 4 PLACES	To 3 PLACES	To 2 PLACES
				1/64	.0156	.016	.02
			1/32		.0312	.031	.03
				3/64	.0469	.047	.05
		1/16			.0625	.063	.06
				5/64	.0781	.078	.08
			3/32		.0938	.094	.09
				7/64	.1094	.109	.11
	1/8				.1250	.125	.13
				9/64	.1406	.141	.14
			5/32		.1562	.156	.16
				11/64	.1719	.172	.17
		3/16			.1875	.188	.19
				13/64	.2031	.203	.20
			7/32		.2188	.219	.22
				15/64	.2344	.234	.23
1/4					.2500	.250	.25
				17/64	.2656	.266	.27
			9/32		.2812	.281	.28
				19/64	.2969	.297	.30
		5/16			.3125	.313	.31
				21/64	.3281	.328	.33
			11/32		.3438	.344	.34
				23/64	.3594	.359	.36
	3/8				.3750	.375	.38
				25/64	.3906	.391	.39
			13/32		.4062	.406	.41
				27/64	.4219	.422	.42
		7/16			.4375	.438	.44
				29/64	.4531	.453	.45
			15/32		.4688	.469	.47
				31/64	.4844	.484	.48
					.5000	.500	.50

4ths	8ths	16ths	32nds	64ths	To 4 PLACES	To 3 PLACES	To 2 PLACES
				33/64	.5156	.516	.52
			17/32		.5312	.531	.53
				35/64	.5469	.547	.55
		9/16			.5625	.563	.56
				37/64	.5781	.578	.58
			19/32		.5938	.594	.59
				39/64	.6094	.609	.61
	5/8				.6250	.625	.63
				41/64	.6406	.641	.64
			21/32		.6562	.656	.66
				43/64	.6719	.672	.67
		11/16			.6875	.688	.69
				45/64	.7031	.703	.70
			23/32		.7188	.719	.72
				47/64	.7344	.734	.73
3/4					.7500	.750	.75
				49/64	.7656	.766	.77
			25/32		.7812	.781	.78
				51/64	.7969	.797	.80
		13/16			.8125	.813	.81
				53/64	.8281	.828	.83
			27/32		.8438	.844	.84
				55/64	.8594	.859	.86
	7/8				.8750	.875	.88
				57/64	.8906	.891	.89
			29/32		.9062	.906	.91
				59/64	.9219	.922	.92
		15/16			.9375	.938	.94
				61/64	.9531	.953	.95
			31/32		.9688	.969	.97
				63/64	.9844	.984	.98
					1.0000	1.000	1.00

Alabama
Litton Electronics
System Packaging
222 Peabody Rd.
Meridianville, AL 35759
(205) 828-1200

Alaska
Litton Winchester Electronics
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Woodinville, WA 98072
(206) 885-9696

Arizona
Harris & Croy Inc.
8260 East Raintree Dr.
Scottsdale, AZ 85260
(602) 951-9121

Arkansas
Bouillion Electronics Sales Co.
555 Republic Dr. Suite 200
Plano, TX 75074
(214) 423-6093

California (Southern)
Litton Electronic
System Packaging
7596 Ventura Canyon Ave.
Van Nuys, CA 91402-6360
(818) 997-8546

California (Northern)
Synelect Marketing
1670 Newhall St. Suite 210
Santa Clara, CA 95050
(408) 244-9900

San Diego Area
Litton Electronics
System Packaging
204 N. El Camino Real
Suite E236
Encinitas, CA 92024
(619) 574-7502

Colorado
Litton Electronic
System Packaging
8099 South Marshall St.
Littleton, CO 80123
(303) 972-4256

Connecticut
Litton Electronic
System Packaging
239 Littleton Rd. Suite 5D
Westford, MA 01886
(508) 692-0100

Delaware
Dalbrook Associates
808 Bethlehem Pike
Colmar, PA 18915
(215) 997-2770

Washington DC
Dalbrook Associates
808 Bethlehem Pike
Colmar, PA 18915
(215) 997-2770

Florida
Askland Electronic Components
538 North Crescent Dr.
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(305) 987-1074

Georgia
Litton Electronic
System Packaging
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(404) 487-3452

Hawaii
Litton Electronic
System Packaging
7596 Ventura Canyon Ave.
Van Nuys, CA 91402-6360
(818) 997-8546

Idaho
Litton Winchester
Electronics Division
13304 187th Court N.E.
Woodinville, WA 98072
(206) 885-9696

Illinois
Electron Marketing Corp.
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Suite 109
Des Plaines, IL 60018
(312) 298-2330

Rock Island County, Illinois
Cahill, Schmitz & Howe, Inc.
4905 Lakeside Dr.
Cedar Rapids, IA 52402
(319) 377-8219

Southern Illinois
Thunderbird Technical Sales
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Wichita, KS 67226-2601
(316) 636-5777

Indiana
Wilson Technical Sales
8752 Robbins Rd.
P.O. Box 688510
Indianapolis, IN 46268
(317) 872-2513

Iowa
Cahill, Schmitz & Howe, Inc.
4905 Lakeside Dr.
Cedar Rapids, IA 52402
(319) 377-8219

Kansas
Thunderbird Technical Sales
8610 E. 34th St. North
Wichita, KS 67226-2601
(316) 636-5777

Kentucky
Wilson Technical Sales
8752 Robbins Rd.
P.O. Box 688510
Indianapolis, IN 46268
(317) 872-2513

Louisiana
Bouillion Electronics Sales Co.
555 Republic Drive Suite 200
Plano, TX 75074
(214) 423-6093

Maine
Litton Electronic
System Packaging
239 Littleton Rd. Suite 5D
Westford, MA 01886
(508) 692-0100

Maryland
Dalbrook Associates
808 Bethlehem Pike
Colmar, PA 18915
(215) 997-2770

Massachusetts
Litton Electronic
System Packaging
239 Littleton Rd. Suite 5D
Westford, MA 01886
(508) 692-0100

Michigan
Rathsburg Associates, Inc
17600 Northland Park Court
Suite 100 P.O. Box 5037
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(313) 559-9700

Minnesota
Giefer Sales
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Minneapolis, MN 55420
(612) 884-2395

Mississippi
Litton Electronic
System Packaging
114 Ridge View
Peachtree City, GA 30269
(404) 487-3452

Missouri
Thunderbird Technical
Sales & Services, Inc.
422 Industrial Dr. Suite 3
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(314) 298-8940

Montana
Litton Winchester Electronics
13304 187th Court N.E.
Woodinville, WA 98072
(206) 885-9696

Nebraska
Thunderbird Technical
Sales & Services, Inc.
3875 West 95th St.
Leawood, KS 66206
(913) 642-7220

Nevada
Synelect Marketing
1670 Newhall St.
Suite 210
Santa Clara, CA 95050
(408) 244-9900

New Hampshire
Litton Electronic
System Packaging
239 Littleton Rd., Suite 5D
Westford MA 01886
(508) 692-0100

New Jersey (Southern New Jersey)
Dalbrook Associates
808 Bethlehem Pike
Colmar, PA 18915
(215) 997-2770

Northern New Jersey
Litton Winchester Electronics
P.O. Box 334
Ringwood, NJ 07456
(201) 962-4337

New Mexico
Harris & Croy
8400 Menaul N.E.
Suite A134
Albuquerque, NM 87112
(505) 275-9103

New York (Binghampton)
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System Packaging
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Syracuse, Rochester NY Area
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Minneapolis MN 55420
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Ohio
Makin & Associates Inc.
3165 Linwood Rd.
Cincinnati, OH 45209
(513) 871-2424

Oklahoma
Bouillion Electronics Sales Co.
555 Republic Dr. Suite 200
Plano, TX 75074
(214) 423-6093

Oregon
Litton Winchester Electronics
13304 187th Court N.E.
Woodinville, WA 98072
(206) 885-9696

Eastern Pennsylvania
Dalbrook Associates
808 Bethlehem Pike
Colmar, PA 18915
(215) 997-2770

Western Pennsylvania
Makin & Associates, Inc.
3165 Linwood Rd.
Cincinnati, OH 45209
(513) 871-2424

Puerto Rico
Electronic Technical Sales, Inc.
P.O. Box 10758
Caparra Heights Station
San Juan, PR 00922
(809) 720-1300

Rhode Island
Litton Electronic
System Packaging
239 Littleton Rd. Suite 5D
Westford MA 01886
(508) 692-0100

South Dakota
Giefer Sales
8053 E. Bloomington Freeway
Minneapolis, MN 55420
(612) 884-2395

Tennessee
Litton Electronic
System Packaging
114 Ridge View
Peachtree City, GA 30269
(404) 487-3452

Texas
Bouillion Electronics Sales Co.
555 Republic Dr. Suite 200
Plano, TX 75074
(214) 423-6093

Utah
Litton Electronic
System Packaging
8099 South Marshall St.
Littleton, CO 80123
(303) 972-4256

Vermont
Litton Electronic
System Packaging
239 Littleton Rd.
Suite 5D
Westford, MA 01886
(508) 692-0100

Virginia
Dalbrook Associates
808 Bethlehem Pike
Colmar, PA 18915
(215) 997-2770

Washington
Litton Winchester Electronics
13304 187th Court N.E.
Woodinville, WA 98072
(206) 885-9696

West Virginia
Makin & Associates, Inc.
6161 Busch Blvd. Suite 120
Columbus, OH 43229
(614) 848-5424

Wisconsin
Electron Marketing Corp.
118 Tenny Ave.
Waukesha, WI 53186
(414) 547-1505

Wyoming
Litton Electronic
System Packaging
8099 South Marshall St.
Littleton, CO 80123
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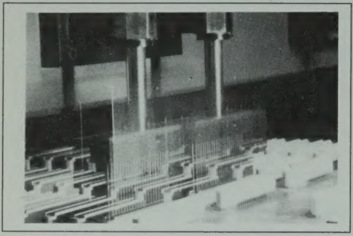

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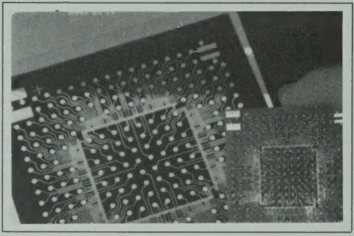

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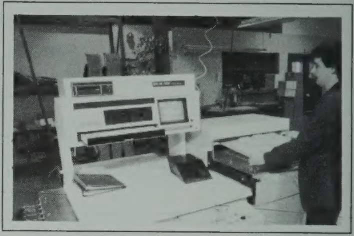
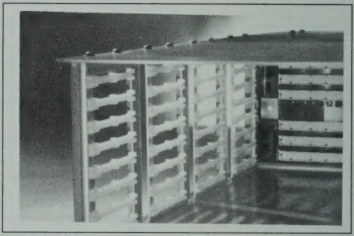


Inter-Pak Electronics is the fastest growing producer of press-fit backpanels with state-of-the-art automated assembly and test equipment.



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Otto-Hahn Strabe 8
7100 Heilbronn-Biberach Germany
Telephone 7066-3000
Telefax: 7066-3026
Telex: 728-556

Advanced Circuitry

4811 West Kearney
Springfield, Missouri 65803
Telephone: 417-862-0751
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INFORMATION HOT-LINE 203-274-5744

Litton

Winchester
Electronics

400 Park Road
Watertown, CT 06795
Sales Dept. (203) 755-5000
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